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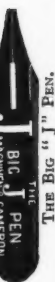
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SIR FRANCIS DRAKE.

II.



SIR FRANCIS DRAKE.

(From a plate produced in Drake's lifetime.)

LEAVING Port St. Julian, Drake was driven southwards as far as Cape Horn, where he saw the junction of the two great oceans. He then passed the Straits of Magellan and coasted the shores of Chili and Peru, attacking the Spaniards, both by sea and shore, whenever the opportunity offered. His successes on this occasion were as remarkable as his disappointments had been in the previous voyage. Besides some minor prizes, which only appear of small value when contrasted with the enormous captures which followed, he took, in the harbour of Lima, with his single ship, seventeen Spanish vessels, all having rich cargoes on board, and several of them containing large

treasure in specie and uncoined silver. Learning that a treasure-ship, called the Caca Fuego, had only recently quitted the harbour, he went in pursuit, and succeeded in overtaking it. In this vessel alone he found gold and silver to the value of ninety thousand pounds. Another caravel fell into his possession not long afterwards with eighty pounds weight of gold on board. Then proceeding northward to Mexico, he reduced Acapulco, which town also rendered him a rich plunder.

The Golden Hind, as Drake's ship was called, was now laden with riches, and his object was to return home in safety.

His natural course would have been to proceed

southward along the coast of Peru and Chili, and so either round Cape Horn or through the Straits of Magellan into the Atlantic. But he was possessed by the idea, entertained apparently by the great seamen of that day, that it would be impossible to double Cape Horn. He knew also that the Spaniards, who by this time had learned the extent of their losses at his hands, would be on the look-out for him if he sailed southwards. He came, therefore, to the resolution—one very characteristic of his enterprising disposition—of endeavouring to enter the Atlantic to the north of the American continent—make the north-east passage, in fact, so persistently sought after by one enterprising navigator after another for many subsequent generations. He was prevented, however, from proceeding any distance northwards by the extraordinary and exceptional severity of the cold off the Californian coast. After taking possession, therefore, in the name of the Queen of England, of the country which he called by the name of New Albion, he determined to proceed homewards across the Pacific and Indian Oceans, notwithstanding the extraordinary length of the voyage, and the fact that he was totally unacquainted with its navigation. The "Sea Card" (that is, a rough chart), which he had obtained from a merchant captain, was his sole guide through the vast waste of waters. By its help he reached first of all the Philippines, then Ternate and Tidore, and lastly Celebes; where the terrible disaster befel him which forms, perhaps, the most remarkable incident in his life. As he was approaching the island his vessel ran upon a rock, and remained hard and fast, notwithstanding every effort to dislodge it. Drake first of all summoned the crew to prayers. After these had been devoutly offered up, he proceeded to throw overboard eight of his guns, and a large portion of his stores of food. But this appeared to have no effect, and all hope of escape had been abandoned, when suddenly the ship slipped off the reef into deep water, and was found to have sustained no serious injury.

Proceeding to Java, he now determined to make his way home through the Cape, and, after a prosperous voyage, reached Plymouth the 26th of September, 1580, having been absent from England two years and eight months.

He was well received at Plymouth, where the bells were rung in honour of his arrival; but he did not meet with so warm a welcome from his countrymen generally. Many considered him to be little better than a robber and a pirate; indeed, there is no doubt that we in the present day would regard any one who so acted in that light. Again, there had been convictions, not long since, for piracy, and men protested that they could see little difference between the offenders who had been so condemned and this newly returned adventurer. It was feared that if such deeds were permitted, the English trade would be endangered, and a war with Spain might break out. On the other hand, the violence and rapacity of the Spaniards, who treated as an enemy every Englishman presuming to enter the Southern Seas, had greatly provoked the English people; many

of whom held that any reprisals that might be made on them were lawful. The controversy waged hotly, and the issue for some time was doubtful. Mendoza, the Spanish ambassador, claimed the money, with which Drake's ships were laden, as the private property of Spanish subjects; and his representations to Elizabeth might have been successful, if he had not unwisely claimed the whole of the South American colonies, with the seas adjacent, as the exclusive property of the Spanish nation, into which no Englishman had a right to intrude. This seems to have determined the question at issue in Drake's favour. On the 4th of April, 1581, more than six months after his return to England, the queen came on board the *Golden Hind*, as it lay off Deptford, publicly declared her approval of his actions, and conferred the honour of knighthood upon him. She also gave directions that the *Golden Hind* should be carefully preserved as a monument, not only of its owner's glory, but that of the nation to which he belonged. Her orders were faithfully observed, and afterwards, when in the course of time the timbers decayed and the vessel was broken up, a chair was made of the planks and presented, by Charles II., to the University of Oxford. Drake had to surrender some part of his prize-money to satisfy the Spanish demands, though how much is hardly known; but he himself admitted that after every deduction had been made, the profits of the voyage had been in proportion to the expense of its outfit as fifty to one.

At this point of Drake's career his history as a private adventurer may be said to cease. The troubles with Spain becoming every year of a graver character, and a naval struggle between the two countries being imminent, Elizabeth was anxious to avail herself of the services of an officer of Drake's character and experience. No sovereign ever knew better how to choose her servants than she did. In 1585 she raised him to the rank of admiral, and subsequently made him vice-admiral of her fleet. His history from that date assumes a different character.

With every succeeding year of Elizabeth's reign the enmity between her and Philip grew more bitter. A haughty and imperious sovereign, the latter could not endure that any part of his kingdom, as he accounted England to be, should be reft from him; a sincere though bigoted son of the Romish Church, he earnestly desired to compel her return to her old obedience. On the other hand, Elizabeth's spirit was as unbending as his own, and was prompt to repay scorn with scorn and injury with injury. It was evident that a declaration of war could not be far distant, and she judged it more politic to anticipate the blow about to be levelled at England, by herself striking at Philip's West Indian possessions. In the year 1585 she armed a fleet of twenty-one, or, as some say, twenty-five ships, which she placed under the command of Drake, directing him to attack the towns and destroy the shipping of the Spaniards in the West. A land force of two thousand three hundred soldiers was put on board the fleet under the command of the celebrated Sir Philip Sidney, who persisted in accompanying the expedition,

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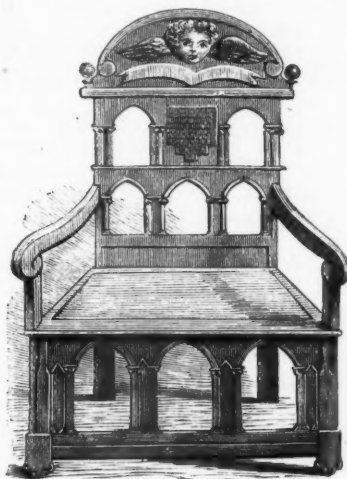
The fleet touched first at the Canaries, and afterwards at the Cape Verde Islands, but little was effected beyond the capture of St. Jago, a worthless prize when obtained. Proceeding thence to Hispaniola and its vicinity, Drake reduced the cities of St. Domingo, Cartagena, and St. Augustine, from all of which he exacted large ransoms. This accomplished, the admiral turned his ships homewards, visiting in his way the colony which Raleigh had planted in Virginia. Here he found the governor, Mr. Lane,* desirous of returning home, and at his request Drake conveyed him to England.

Regarded as a pecuniary speculation, this voyage was not nearly so profitable as the previous expeditions had proved. But, as Drake himself declared, it was not undertaken for purposes of private gain, but for that of weakening the enemy; which purpose, it may be added, was most successfully carried out. Philip received a heavy blow, which, however, only exasperated the bitterness of his hate towards Elizabeth.

In the ensuing year, 1587, he set vigorously to work on an undertaking which probably he had long contemplated, the invasion of England. It must be allowed that the means at his command rendered him a formidable enemy. In the various harbours of his dominions he had one hundred and thirty-five men of war, the average burden of which was upwards of four hundred tons, whereas only a very few of the largest vessels in the English service seem to have exceeded one hundred tons. His artillery amounted to between three and four thousand cannon, a number nearly four times greater than that of his adversaries. The soldiers on board the Armada fell but little short of twenty thousand, and the Duke of Parma, who commanded in the Netherlands, had forty thousand more, whom he could send over in transports to swell the invading force. Add to this that a species of holy war had been proclaimed against England, and volunteers from all the Continental countries which professed the Romish faith, were continually arriving in Parma's camp to take part in the invasion. To this vast number Elizabeth could only oppose raw and hasty levies; which, according to all reasonable calculation, could have offered but a feeble opposition to the experienced veterans of Spain, at that time confessedly the best soldiers in Europe.

In this strait Elizabeth resolved, if she could not prevent the contemplated attempt on her dominions, she would at least delay it as long as possible. With this view, in the month of April, she dispatched Drake, with a fleet of four large and twenty smaller ships, to Cadiz, where a number of Spanish vessels were lying in the harbour, ready to join the rest of the Armada at Lisbon. Drake entered the port with his small force, and, in the face of overwhelming odds, burned a hundred vessels laden with ammunition and stores, together with a great ship of war belonging to the cele-

brated Marquis of Santa Cruz. On the day after this feat he proceeded to Sagres, where again he destroyed one hundred Spanish vessels, and took by assault the Castle of Cape St. Vincent, together with two or three other fortresses. He next directed his course to Lisbon, where, with equal daring, he forced his way into the harbour and burned the shipping under the very eyes of the Spanish admiral, who did not venture out to oppose him. Having accomplished the main object of his enterprise, he now resolved to do something for the benefit of the English merchants to whom the smaller vessels of his flotilla belonged. He set sail for the Azores, and lay in waiting off Ter-



Chair made out of the planks of Drake's ship, the *Golden Hind*, and presented to the University of Oxford.

ceira for a large carrack, which was expected to arrive from the East Indies about that time. He was fortunate enough to accomplish this also, and returned triumphantly to England with his prize, which was found to be laden with enormous wealth. This expedition Drake facetiously described as "singeing the King of Spain's beard." It might with more aptness have been likened to the shaving of Samson's locks of hair; and it may be added, that it was some considerable time before they grew again.

It is more than probable that these severe losses, while they stimulated to a greater pitch Philip's resentment against England, obliged him to defer for a full twelvemonth the sailing of the Armada. This reprieve, so to speak, was used by Elizabeth in making what preparations she could for resistance. She levied soldiers among all ranks of her subjects, requiring all to serve who were between the ages of eighteen and sixty. By these means an army of upwards of sixty thousand men was enrolled. But one-half of this force (as Lingard remarks) never existed except upon paper, and the other never reached more than one-half of the specified number. If England was to be saved, it must be by the skill and intrepidity of her seamen.

Probably Elizabeth herself was acute enough to perceive this. She had recently dismissed two

* This gentleman is said to have been the first to import tobacco into England.

thousand of her sailors, unable (as the reader has heard) to support the cost of their maintenance. She now recalled these to her service, and proceeded to raise as numerous a fleet as was possible under the circumstances. Her own navy consisted of thirty-four men-of-war. The city of London furnished thirty-three, and various private owners eighteen more. To these were added hired vessels to the number of ninety-six, but these latter were mostly small craft. In brief, there was no comparison between the force of the two fleets. The large Spanish men-of-war were like floating castles when contrasted with the most powerful vessels of their opponents, and the disproportion between the remaining ships of the rival armaments was greater still. If the Spanish and English vessels should be equally well handled, there would be small hope of victory for the latter.

But here was England's great hope of safety. She possessed a large number of experienced sailors—men disciplined by daring adventures in the Southern Seas, whose skill and bravery have never been surpassed at any period of her history. Lord Howard of Effingham, to be sure, the Lord High Admiral, was little more than a gallant and patriotic soldier. But others were associated with him in command, whose naval knowledge would more than supply any deficiency on his part. Drake—whom the queen had been disposed to ignore after his return from the Cadiz expedition, fearing, as she did, that the King of Spain would make it the ground for an open declaration of war—Drake was now recalled to favour, and made vice-admiral of the fleet. Hawkins was nominated rear-admiral, and the command of the largest ships was given to Frobisher, Cavendish, Fenton, and other renowned seamen. The entire fleet was stationed at Plymouth, to await the arrival of the long-expected Armada.

Here occurred the incident related at the outset of this article. Drake and his brother captains were engaged in a game of bowls on the "Hoe" when speedy tidings of the arrival of the Spanish fleet was brought by the Scotch privateer, and the captains hurried down to the harbour to get on board their ships, Drake alone refusing to go until he had completed his game.

Notwithstanding the fresh wind which was blowing from the sea, the admiral contrived to get out of port, and was followed by nearly all his fleet. They soon fell in with the Spaniards, whose ships were sailing in the form of a vast crescent, and presented an imposing spectacle. The English force was not strong enough to allow of their venturing on a pitched battle; but, taking advantage of their superior lightness and naval skill, they hung on the rear of their opponents, harassing and cutting off the stragglers. Drake soon distinguished himself in this mode of warfare. He made prize of a large galleon commanded by a distinguished Spanish officer, Don Pedro de Valdez; who is said to have struck his colours as soon as he learned that the captain of the ship by which he was attacked was Sir Francis Drake. Another large vessel was also captured by him; but it is added by some of his biographers, that,

in his zeal to pursue the enemy's ships, he forgot that he had been appointed to carry lights for the direction of the English fleet, and that the latter was misled and brought into some danger by his neglect. If so, his subsequent services speedily effaced the memory of his mistake.

Two days afterwards the admiral divided his fleet into four parts, one of which he put under the direction of Drake; and it is recorded that none of the four squadrons were so successful in inflicting loss and disaster on the Spaniards as the one which he commanded. He took his part with great effect in the pitched battle of the eighth of August, which finally overthrew the hopes of Philip. The great Armada was found to be quite incapable of resisting the English attack, notwithstanding that the Spaniards fought with the most determined resolution. It was dispersed in all directions. A considerable portion returned with all possible speed to Spain; a still larger number was wrecked on the wild sea-coasts of the Orkneys, Hebrides, and the north of Ireland, and the remainder fell into the hands of their enemies.

The defeat of the Armada intoxicated the people with joy. They were persuaded that their superiority in seamanship and valour over their enemies was so great, that whatever they might attempt against them would be sure to succeed. Accordingly in the year following the defeat of the Armada, an expedition was sent out for the purpose of aiding Don Antonio to regain the throne of Portugal. Drake was made the commander of the sea forces, which consisted of six men-of-war and one hundred and forty-six smaller vessels;* and Sir John Norris general of the land forces, which numbered nearly twenty thousand volunteers.

It was soon evident that the two commanders were not well assorted. They had scarcely lost sight of land, when dissensions began to arise between them. Sir Francis advised proceeding without loss of time to Lisbon, before Philip's officers were apprised of their approach. But Sir John Norris insisted on landing at the Groyne,† for the purpose of destroying an armament which was said to be in preparation for a second invasion of England in the arsenals of that port. They accordingly forced their way into the harbour, destroyed some ships of war, among them one commanded by Martinez di Ricalde, vice-admiral of Spain, and defeated an army of four or five thousand men, which had opposed their landing. An assault was next made on the lower town, which was captured and pillaged, and they might have succeeded in reducing the upper city also if their provisions and ammunition had held out.

Norris now resolved to proceed to Lisbon by land, and Drake engaged to carry the fleet thither to support him. But by this time the Spaniards had received full intelligence of what was passing, and were enabled to take effectual steps to defeat the project. The Portuguese were disarmed; all

* The Dutch also, whose enmity to Philip was as great as Elizabeth's own, sent a small squadron.

† A corruption of the name Corunna, very general in the history of those times.

persons suspected of favouring Don Antonio were arrested, and none of his supporters in consequence ventured to declare themselves. Sir John Norris found himself in imminent danger of being overpowered and taken prisoner. Drake had not arrived according to agreement, but had delayed his voyage. The English commander resolved to seize on some shipping belonging to the Hanse Towns and make his way home. Fortunately he was not pursued, and was thus enabled to reach England after an absence of somewhat less than three months.

On his arrival he complained bitterly of Drake's failure to keep his promise of following him to Lisbon; which he declared to be the cause of the disastrous failure of the expedition, in which two-thirds of the gentlemen volunteers who accompanied it had perished. But Drake defended himself against these charges with complete success. He pointed out that the unfortunate issue of the expedition was mainly owing to the delay before Corunna, which gave the Spaniards time to prepare for resistance; and again that it was impossible for him to proceed to Lisbon as had been intended, his ships having been scattered by a violent storm, and it was fully a fortnight before he could collect them again; by which time it would have been useless for him to have joined Norris at Lisbon. Drake's conduct on this occasion has been censured by some of his biographers, who charge him with having evinced an imperious and domineering spirit. But it is evident that those who were best qualified to judge of the matter acquitted him of all blame. Indeed, the expedition, though doubtless it proved a failure as regarded the main purpose with which it had been sent out—the establishment of the Prior of Crato on the throne of Portugal—yet had the effect at once of seriously injuring, and of striking terror into, the enemies of England; and these results appear to have fully satisfied Elizabeth.

Drake was now fifty years old, and, notwithstanding the strength of his constitution, must have felt severely the strain, which constant exposure to hot suns and pestilential atmospheres, the hardships of war, and the anxieties of command must ever occasion. Doubtless he was desirous of taking rest, and accordingly for five or six years remained on shore. During this period he is said to have sat in Parliament for Plymouth, though I am not aware that there is any mention of his having taken part in the debates. He was also at one time Mayor of the town. The good citizens seem to have been anxious to bestow all possible honour upon him. Nor is this to be wondered at, when it is remembered that, independently of the great renown which he had won as the successful champion of English liberty, he had conferred great benefits on the city. Previously to his time no water was to be obtained at Plymouth, except by fetching it from a spring a mile distant from the town. By the 27th of Elizabeth the inhabitants obtained permission to bring water from Dartmoor for the supply of the town. Drake, at his own cost, which must have been considerable, constructed the aqueducts, twenty-four miles in length, displaying consider-

able engineering skill in the work. During this period of his life he resided at Buckland Monachorum, a village distant about four miles from his native Tavistock, in an old castellated abbey, which he had purchased from his friend, Sir Richard Grenville. The old abbey is now a ruin, but some portions of it still remain. A modern mansion, called Buckland Abbey, has been built near it, and is still in possession of the Drake family.

It would have been happier for Drake if he had passed the remainder of his life in the enjoyment of the rest he had so nobly earned. But either he had grown weary of inaction, or he was urged by the queen to undertake another expedition against the Spanish settlements. The old hate of Spain still survived; nor were the apprehensions of a fresh invasion entirely allayed. It was held to be sound policy once more to attack Philip in his most sensitive quarter, the American settlements. Drake and Hawkins were put in command of a fleet of six ships belonging to the royal navy, and twenty more equipped by private adventurers. On board was a considerable land force, under the command of Sir Thomas Baskerville and Sir Nicholas Clifford. The undertaking was a failure from the outset, and ended in grievous disaster. There were too many in command, and most of them had been accustomed to exercise absolute authority. The fleet had scarcely reached the West Indies, when Hawkins and Drake had so angry a quarrel, that they parted company. Soon afterwards five ships belonging to Hawkins's command were captured by the Spaniards. An old man and broken in health, he is said to have been so chagrined at the occurrence, that he died of a broken heart.

Drake was now left in sole command of the navy. He projected an attack on Porto Rico; but one of his ships had fallen into the hands of the Spaniards, who contrived, by the employment of torture, to obtain from some of his sailors information of his designs. When he made his assault on the town, therefore, he found the inhabitants in arms ready to resist him, and he was in consequence beaten off. He then steered for the mainland, captured and burnt the towns of Rio de la Hacha, St. Martha, and Nombre de Dios, all of which the Spaniards refused to ransom. He next designed an attack on Panama, and dispatched Sir Thomas Baskerville with 750 men across the isthmus, hoping to take the town by surprise. But Baskerville returned, on the fourth day after his departure, with the report that any attempt on the town would be wholly impracticable. The disappointment seems to have had something of the same effect upon him as the loss of his ships had exercised on Hawkins. Irritation and anxiety, combined with the notorious unhealthiness of Nombre de Dios, predisposed him to catch the disease which had broken out in the fleet, and to which several of his captains had already fallen victims. His strong constitution struggled with it for nearly three weeks, but yielded at last, and he died on the 27th of December, 1595. He was buried at sea on the same day. In the words of a contemporary poet,

The waves became his winding-sheet,
The waters were his tomb,
But for his fame the ocean sea
Was not sufficient room.

The history of the great seaman, who was not only the first Englishman to circumnavigate the world, but one of the first, if not *the* first, to lay the foundation of England's supremacy at sea, cannot fail, at all times, to be interesting to a maritime people. Especially is it full of interest at the present moment, when the public mind is engaged with the question of the proposed tunnel to connect England with France. I have no desire to meddle with that question further than to point out, that its discussion has brought out one fact very plainly—viz., that it is not the interposition between us and the Continent of twenty miles of water that has so long proved our protection, but that fact combined with England's maritime ascendancy. Take away the second of these safeguards, and the first would be a very frail security.

To be sure, we might have learned that from history ourselves. The English Channel, though it has kept Frenchmen from invading our shores, never kept us from invading France whenever it was our pleasure to do so, as witness the unresisted incursions made by Edward III, Henry V, and Edward IV. No doubt modern warfare has rendered invasion more difficult than it was wont to be of old. But still Napoleon was not far wrong when he said that, if he could have cleared the Channel of our fleet, he would have landed a vast military force on our shores with but little opposition. If we wish to retain our immunity from foreign aggression, we must maintain the sovereignty of the seas began by Drake, and carried on by the long line of gallant sailors who came after him. Tunnel or no tunnel, no experienced general would venture to invade England without possession of the supremacy by sea; tunnel or no tunnel, the nation which possessed that would find but little difficulty in transporting her armies to our shores.



Drake's Crest, said to have been given to him by Queen Elizabeth.

Three per Cents.

LET others tell how foreign bonds
Their owners reimburse,
And laud them up as fairy wands
Which soon will fill the purse;
Let brokers try to make me pay
More heed to thriving Rentes,
I listen not, but wake my lay
In praise of Three per Cents.

Some trust to mines, in veins of which
The road to wealth seems plain;
I'd whisper to the would-be rich,
Too oft 'tis all in vain.

A fortune in futurity
Their golden dream presents,
Small gain with good security,
My modest Three per Cents.

We read of startling dividends
That prove the richest—joke,
And many a flaming scheme that ends,
Most fittingly, in smoke.

Projects and plans which, should he trust,
Confiding man repents,
No, no! in cautious mood he must
Rely on Three per Cents.

Ah! then when breakfast calls him down,
The daily news to cull,
If loans are "weak" he does not frown,
Nor quake if shares are "dull;"
And railways may be very "flat,"
His peace that ne'er prevents,
He all the more is merry at
The thought of Three per Cents.

I don't believe—directors may—
In making soup from size,
Importing chairs from Table Bay,
Or something just as wise.
We will not say one word about
Their good or bad intents,
But, if thus far you've heard me out,
You'll keep to Three per Cents.

SYDNEY GREY.

SQUIRE LISLE'S BEQUEST.

BY ANNE BEALE.



"JUST ONE MOUTHFUL."

CHAPTER VIII.—FONTAINEBLEAU VILLA.

LEONARD was breathless when he reached his goal. He had literally scampered over the Mall, through the New Village, and up the hill. Fontainebleau was the name given by M. d'Angère to the cottage in which he lived, in memory of the place of his birth. For some time this word had greatly puzzled the postman and tradesmen, but they had finally anglicised both it and his own patronymic by calling them *Fontainblue* and *Anger*, which distressed madame, who considered it hard that "the most amiable man in the world" should have so fierce a misnomer. Indeed the villagers were wont to affirm that he was the meekest of Frenchmen, and was never known to be *angry* with any one.

The cottage was scarcely visible from the road, owing to the shrubs that surrounded it, but a small swing gate and a short path led at once to its verandah. It was built chiefly of wood, and covered with smooth thatch, which some people affirmed to be more picturesque than waterproof, but which its tenants greatly admired. Its frontage faced a lawny field backed by high and umbrageous trees, which, although no appendage to Fontainebleau, M. d'Angère was pleased to call his *Plaisance*.

Leonard was greeted by the words, uttered in the shrillest of voices, "*Trop tard. Le diner est servi,*" and the still shriller barkings of the three small dogs. This, while he was yet in the miniature hall.

"I am so sorry to be late, but I could not help it," he apologised as he entered the pretty drawing-room at the back.

M. d'Angère was standing before a cage, gesticulating and exclaiming, "*Silence, Jacquot. Hold your tongue, Polly;*" while a grey parrot was screeching out all sorts of sentences, half French half English, in which the word *diner* predominated. His wife sat on a couch beating her foot impatiently, and contemplating her small Geneva watch.

"Ha! here you are, mon ami, Léonard. Now we shall all be content. My wife, she like the punctuality. And I—why, I care not much provide I satisfy my hunger at the end."

"You know he is the most punctual of men, Leonard; he likes his meals to the minute," said Madame d'Angère, kissing her hand to her husband and leading the way to the small dining-room below.

"I know quite well, Aunt Amicia. I am so

sorry to have kept you," said Leonard, hastening to perform a little ceremonial that was expected of him, that of offering his arm to Madame d'Angère.

"Excuse me, mon cher, but we have proceeded together so many years," cried monsieur, passing before him, and presenting his arm, which was taken with inimitable grace.

Leonard smiled as he followed them down a staircase that could only conveniently accommodate one at a time, for though he really loved them next to his uncle, he could but be amused with them. Pat, pat, pat, came twelve little paws at his back, while, "Bon appétit. Make haste, Lilyvite," from the parrot, wound up the procession. Lilywhite was the maid-of-all-work, once a Blue School girl, who was being trained by Madame d'Angère for "higher wages, and bettering herself." The small table was laid with precision, and the room was bright and cheerful. It looked out upon the Plaisance, and Leonard delighted in it, for in the bookshelves was a store of good French literature, which M. d'Angère was always pleased to help him to appreciate.

The dogs took their places near their master and mistress, but not for greed, as they were not allowed to be fed during meals. Nevertheless, they watched them with a patient endurance, which M. d'Angère was wont to call their "daily ordeal." But for his polite obedience to his wife's wishes, and a regard for an already well-worn carpet, he would probably have given them occasional tit-bits himself. As it was, when the meal was concluded, he was permitted to administer "just one mouthful" to each, and Leonard, who knew the exact moment at which this was to be performed, always watched for it eagerly. He had so watched ever since he was a child, and never remembered any variation in the proceeding.

"Hein! Loulou first, because she is of the softer sex," said monsieur, glancing at his wife, who smiled modestly; and Loulou, the pretty Blenheim, sat up, and sniffed a little, to discover if it were meat or biscuit that her master placed on her nose. "Now—shut your eyes. Wan, two, tree, four, deux, quatre, un, cinq, six," continued monsieur, and Loulou opened her eyes, and with a shake of her ears and toss of her pretty head, cast off and caught the prize. "It matter not if I say six in French or English, Loulou understands. Is it not intelligent, Léonard, mon ami?"

"Very. But look at Frou Frou, monsieur," replied Leonard. Frou Frou was dancing on his hind legs in artistic fashion, and making the tour of the table.

"Thou hast thy bonne bouche. Thou hast performed well," cried monsieur, casting the biscuit to the ceiling, which was duly caught by Frou Frou. "Doux doux is madame's pupil," he added. "You remember his curious history?"

"Oh, yes! It certainly was strange," replied Leonard, hoping to avoid its repetition.

"I never shall forget it," began Madame d'Angère. "We were in London, on our return from Paris, and I saw a man with the loveliest and smallest of white poodles under his arm. We asked the price. It was five pounds, but it was

sold. 'Too much, Alphonse,' I whispered, longing for the sweet creature. But the man followed us to our lodgings, and the next day brought another poodle, whiter and lovelier far. He said he would make a sacrifice and we should have it a bargain at four pound ten, because I was—you remember Alphonse?"

"But, yes, ma mie. Entre nous, Léonard, the man said, because she was so pretty and so amiable. Ha, ha!" put in monsieur when madame hesitated and blushed. "We like the compliment so much, that we purchase the lapdog, and the man assure us we have a bargain. We are in London a few days, and the dog he is so hungry that he grows quite fat—so fat, that we fear the apoplexy, because he pant and wheeze. We are in despair, lest we lose our four pounds and ten shillings, and we procure a dog doctor. He come! examine the patient, and ask for a pair of scissors."

"Imagine my feelings, Leonard!" interrupted Madame d'Angère, shuddering as she covered her face.

"I do, Aunt Amicia. I have a hundred times," said Leonard.

"It was, indeed, horrible!" continued Madame d'Angère.

"But the doctor had no feelings. He proceed to cut open the poor lapdog, while my dear wife shriek and hold his arms. 'Vivisector!' I cry, but crack goes Douxdoux' skin, and he neither bark nor—what you call it?—whine. In a moment, out jump a black puppy, a quarter so big again as the white, and that is our Douxdoux. I crève with laughter as I remember to see the soft white fur upon the table, and Douxdoux, the mongrel, as you call it, jumping about the apartment. Ha, ha, ha!"

"He must have cost money enough to maintain a child," remarked Leonard, reflectively, while Madame d'Angère put Douxdoux through his facings.

His principal accomplishment consisted in jumping through a hoop, held aloof by his mistress. Mongrel though he undoubtedly was, he was the most vivacious and intelligent of the canine favourites.

"A child!" echoed M. d'Angère, pensively. "I have sometimes said so to madame. But then, we have no children. Apropos of them, who was the little angel that carried you off?"

Madame d'Angère interrupted Leonard's reply by bending elegantly to some invisible female, and rising to leave the dinner-table. The gentlemen, old and young, rushed to open the door, but the elder reached it first. Madame passed out, followed by the dogs, and Leonard, to his infinite satisfaction, had a tête-à-tête with his friend. He replied to M. d'Angère's previous question, by relating Aveline's touching story. He was himself so much interested in the child and her mother, that he had been imagining all sorts of impossibilities while the dogs were performing. He had even been suggesting to himself the cruel alternative of putting an end to Loulou, Frou Frou, and Douxdoux, and introducing Aveline in their place.

"The children are more numerous than the blackberries," remarked M. d'Angère, reflectively. "This one will be well brought up. Lilyvite is famous; so was Polly. When Lilyvite does 'better herself,' as did Polly, perhaps madame may select your little protégée."

"She is only eight. She would have six years to remain at school," returned Leonard, dejectedly.

"Hein! Six years, they pass like six months in this delightful climate. Let us take our walk while madame take her siesta! Ma foi, you English you do make the Sunday a day of rest. It is good. I no longer can hear dimanche as a jour de fête. I honour the fourth commandment, and would desire to see both man and beast repose on the Sabbath day."

Before going out, M. d'Angère peeped into the drawing-room, and had the pleasure of a wave of the hand from madame, already recumbent on the couch, surrounded by her dogs. They followed him and Leonard to the old castle. While strolling over the smooth turf that surmounts the deep ditch which surrounds the castle, the friends discoursed of many things, but chiefly of the squire's will. M. d'Angère was much astonished at the legacy left to his wife, and asked Leonard concerning the contents of the davenport, who told him that he was not yet in possession of that antiquated article. M. d'Angère was of opinion that Leonard would discover a fortune in some secret drawer, but the lad knew the late squire too well to expect it.

"If you find nothing, let us know, and I am sure my dear wife will let you share our legacy," said the Frenchman. "A thousand pound! It is so large a sum, we know not what to do with it. I say always, the money bring the care."

"Thank you, monsieur. The squire advises me to fight my way to independence, and so I will," replied Leonard, sturdily.

"He was a queer fowl—fish, I mean. He and I were friends till I marry my Amicia, then, whew! I see him no more. It is always the marriage that offend the relations. If Miss Lisle had not married the poor lieutenant and gone to India, she would, perhaps, have lived, and I should have no legacy, you no davenport, and poor little Lisle no manor."

"Life seems composed of ifs," reflected Leonard.—"If Charles the First had acted differently, he would not have been imprisoned in this castle, and if Oliver Cromwell had been the hero Carlyle makes of him, the king would never have been beheaded."

"Ah, my friend, if Napoleon—but, bah! I dare not return to Fontainebleau and its memories. You have your castle in ruins; I have mine still in vigour, but desolate. Every stone of each could tell its story. But of what good to moralise? That is for the young—the old know better. Let us extend our walk."

They did so, through pleasant lanes and fields, bright in their first delicate greenery. When they returned to the cottage they found Isabella Dallimore and her sister Quiz there. They had come ostensibly to see their aunt, but really to make inquiries concerning Leonard's adventure with

Aveline. This led, naturally, to a discussion in which all joined, not excepting the parrot. In a country place, every new thing, whether it be in morals or dress, is welcome.

"I think it a great shame to put a stranger into a school intended for natives, and I shall tell Uncle Churchhouse so," said Isabella, indignantly.

"Lilyvite, bring the tea," shrieked the parrot.

"If you have only natives in your island, what would become of me?" asked M. d'Angère.

"Pauvre Alphonse! Kiss, kiss, kiss," cried Polly, which caused monsieur to perform many antics towards the cage.

"Are you very fond of that little girl, Leonard?" asked Quiz, half jealously.

"I am very sorry for her, Quiz, because she is so unhappy about her mother. I wish you would go and see her, and make friends with her."

"Friends!" repeated Isabella. "What will you ask next, Leonard? A beggar off the roads! Pray don't put such low notions into her head. Class is class. I thought you were a Conservative."

"That doesn't hinder one being a Christian," replied Leonard, who seldom met Isabella without being irritated into a dispute.

"I suppose I am as much of a Christian as you," returned the girl, offended.

"Snob! Does your mother know you're out?" shrieked Polly.

"I wish you would teach that bird manners, Aunt Amicia," said Isabella, shaking her fist at Polly, who at once began to flutter and scream, while her master held out his finger, and the offender hopped upon it.

"What would it cost to keep a second servant, Isabella? Another Blue School girl, for instance?" asked Madame d'Angère, protruding a pretty little velvet-slipped foot.

"I couldn't say, aunt. You know well enough that those girls eat their heads off. At the rate that our maids gourmandise, I should think thirty pounds a year."

"And Uncle Lisle's legacy, mon Alphonse? What will it add to our income?"

"Ah! ma mie, but I understand not your English regulations. My friend, the major, he tell me it is in what you call the Tree per Cents, and will bring us about thirty pound the year, and the Government he have a slice in his income tax. But we have it not at all for twelve months."

"The squire used to advise me to put my money in the Three per Cents," said Leonard. "He thought it the only safe investment; and I promised him to place my first savings there. He was very ironical, but I didn't mind."

"My friend Lisle has the land, and he cannot put that in the Tree per Cents. How is the young héritier?" asked monsieur.

"In a fair way to be ruined. Indulged in every whim," replied the oracular Isabella.

"The only sons and the heirs always are. I was till the poverty taught me to know myself," said M. d'Angère.

"Pauvre Alphonse! Malheureux Alphonse! Kiss, kiss, kiss," chuckled Polly, still perched on her master's finger.

"He must understand, uncle," whispered Quiz,

stealing up to the bird. "Pretty Polly. Scratch'ee pole, Polly."

"Va-t-en coquine," shrieked the parrot, who would not be cajoled into civility.

"He understand," laughed monsieur, ruffling the feathers at will.

Tea was announced, and all the party, Polly inclusive, proceeded downstairs. The ceremonial of offering arms was repeated, and when the host and hostess took the initiative, Leonard presented his to Isabella with mock gravity, and the words "Will the Countess Isabella De Fortibus do a humble knight the honour?"

"She would very much like to box his ears," replied that damsel, pushing before him.

"Let me! let me!" cried Quiz, catching the offered arm. "This is how auntie walks. Now, Loulou, don't tread on my train," she added, holding up her frock daintily with the disengaged hand.

And so they went to tea, or, more properly, coffee, and made mirth out of every little incident, as young people will. Afterwards they all went to church—the ancient church of Carisbrooke, built, it is supposed, in Saxon days, before the Norman conquered the conquerors. Here Leonard's thoughts reverted, in spite of himself, to the poor little charity girl who was, he felt sure, sobbing herself to sleep in the old school-house.

CHAPTER IX.—THE OLD DAVENPORT.

THE squire's executors did, as M. d'Angère suggested, allow the full twelvemonths to elapse before they wound up his affairs. They did not even transfer the old davenport from manor to vicarage until that set period had passed. Therefore, when Leonard came into possession of his legacy, he had left school, and had resolved to accept the clerkship in the National Provincial Bank, to which allusion has been already made. He did not like the prospect—few young men of talent do like to be tied to a desk all day, with small chance of being let loose during a natural life—yet he was thankful to take what Divine Providence seemed to have placed in his way.

"I have been dependent all my life," he argued. "I shall at least be able to support myself. And if only I could repay aunt for her share in my bringing up, I should be thankful. Uncle has been a cheerful giver, but aunt!"

This notion of repayment of benefits is more or less inherent in us all, but was inconsistent with Leonard's generous nature. He accorded to his uncle unlimited love and gratitude, but he felt it difficult to do as much for his aunt. He did not yet understand that it is wisest to receive without returning, and to give without expecting.

"They have carried it upstairs, Leonard," said Lucy, mysteriously, when the davenport had arrived during her cousin's absence. "May I help you to examine its contents?"

"Impossible, Lucy. It is 'private and confidential,'" replied Leonard, taking two steps at a time as he hastened upstairs.

"I shall take care how I tell you my secrets again, and how I make you an invisible chain for your key," pouted Lucy, and Leonard understood that the acquisition of property resulted in "envy, hatred, malice, and all uncharitableness."

Nevertheless he locked his door, and pulled from some hiding-place about his waistcoat the precious keys suspended to Lucy's chain. The davenport was an unwieldy article of furniture, much worn; the leather on its desk was faded, the ornamental brass-work defaced or lost, but it appeared to enjoy, if not exactly a green old age, at least a strong one. He took off his chain, and seating himself before it, began to try the keys with a feeling of superstitious awe mingled with expectation.

"Surely I shall find something to my advantage, as the advertisements say," he muttered, as he turned the key of the desk, and opened the wide top. "Confusion thrice confounded. The squire himself!" he added, pushing back his chair, and uplifting his hands.

The contents of this portion of the davenport were certainly confused. A mass of papers, all higgledy-piggledy, as the saying is, lay before its new owner—old letters and papers, apparently thrown in haphazard, and mostly yellow with age and dust. But Leonard was attracted from these to a sheet of foolscap paper which appeared on the inside of the lid of the desk. This had been carefully sealed to the wood at the four corners, and was covered with large, bold, but trembling writing, which ran as follows:—"The contents of this davenport are for the eyes of Leonard Leigh alone. If he find that he can make wrong right, let him do so; if not, let him respect the memory of one too proud and reserved to be just. I, Worsley Lisle, scarcely remember what I have, from time to time, and year after year, confided to the keeping of this silent friend; therefore I dare not burn these papers, and have not the courage to examine them. Let Leonard Leigh look them through, but not publish them to the world unless he can thereby benefit any individual named in them. I trust his honour."

Leonard read this paper over and over, then looked ruefully at the discoloured and untidy mass before him. Taking the keys from the lock, he proceeded to open the drawers at the side of the davenport. There were four, and their contents seemed similar to those of the desk, and thrust pell-mell into receptacles really too small to hold them.

"It is romantic, at least," ejaculated Leonard, contemplating his legacy. "Still, I wish the squire had confided all this to his lawyer. How am I to wade through these papers? Yet I will do it, and see if I can 'make wrong right.' That would be something to live for beyond the N.P.B. There is the dinner-bell," he added, and hastily closed and locked both desk and drawers. "I shall be sure of a lecture from aunt," he continued, as he hastily brushed his hair, washed his hands, and made himself presentable.

"I wish you would be more punctual, Leonard," greeted him from Mrs. Churchhouse, as he entered the dining-room.

"Remember his legacy, mother," put in Lucy, sarcastically. "He has been inspecting it."

"And what did you find, Leonard?" inquired Mrs. Churchhouse.

"Nothing as yet, aunt," he replied, in some confusion.

"Ah! there is a mystery," broke in the offended Lucy.

"I hate mysteries!" said her mother, severely.

"Well, I have a straightforward piece of news for you all," said Mr. Churchhouse, coming to the rescue. "We have let the manor."

At this announcement the exclamations and inquiries were general, and attention was entirely diverted from the davenport. The young ladies were in a flutter of delight at the prospect of neighbours, and the squire was forgotten for the moment by all but Leonard, who said he could not bear to think of strangers in the old place.

"Better full than empty; and if they are rich, as I hear they are, they may give to the poor," said the vicar.

"I hope there will be young people, and that they will be accomplished, and bring us new ideas," remarked Sophia, who was sentimental and ambitious. "But it is provoking that all the old furniture must not be sold. I should have liked novelty."

"New furniture would not suit the old carving and quaint architecture. I am glad it must remain," said Leonard.

"For twenty years, at least, until the boy comes of age; then he may make ducks and drakes of it if he will, as heirs generally do," returned his uncle.

Many inquiries followed concerning the name, position, and general qualifications of the new tenants.

"His name is Moore—Mr. John Moore. Not promising, my poor Sophia? He is vouched for by Uncle Conquest, who has to do with his affairs, and who is actually going to spare a whole day to come down from London to arrange matters, although he could not attend the funeral."

"Uncle Conquest! How delightful!" exclaimed Lucy, clapping her hands.

"He will tell us something of the London world. I wish they would ask us to pay them a visit," sighed Sophia.

These two girls had been educated at home, and had not yet been out of their native island. They, like their cousin Leonard, began to sigh for "the world over the waters," as Lucy called it.

Leonard sat up late that night, peering into the contents of his davenport. He was given to sit up late, which displeased his aunt. She was a thrifty housewife, and knew exactly how much candle each member of her family burnt in his or her bedroom. Finding that Leonard was the most extravagant, she managed to furnish his candlestick with a saveall, and to supply this saveall with ends of candle that should have sufficed to light him to his bed. He did not venture to remonstrate, but he contrived to circumvent. On the present occasion, as heretofore, when the actual candle had nearly burnt out, he dexterously

supported its wick against the iron spike in the middle of the saveall, and supplied it with the grease that had fallen upon the candlestick. When this was exhausted, he resorted to a hoard of similar pieces of dry tallow, secreted in his wash-handstand drawer, and so kept the wick moist and alight. Its flame was not brilliant, yet who shall say how many odes, essays, stories even, he had composed by it, or how many stiff books he had read and lessons learnt? He considered his conscience clear, because he never exceeded his



"IF HE CAN MAKE WRONG RIGHT, LET HIM DO SO."

end of candle, and many a sly joke passed between him and his cousins concerning it.

"Exhausted, and still nothing but confusion. What can it all mean?" he muttered, as he perceived the wick was ill-supplied, and shut the davenport with difficulty.

As it is his secret, we dare not pry into it, but must leave him to undress hastily by the waning light, and subsequently to offer up his "sacrifice of prayer and praise" in that darkness which is "no darkness, but clear as the day," to Him whom He desired to serve.

The next evening brought Mr. Conquest. He was a shrewd, clever lawyer, with an intelligent face and satirical manner. He had spent the best part of his life in hard work, and at fifty years of age found himself in good practice, but with iron-grey hair, wrinkled brow, and compressed lips. When he married, his wife's little fortune had been a help to him, and they had laughed at difficulties; now that he was better off, he grew crusty over

slight impediments, and was not, perhaps, the most amiable of men. None the less he was a very pleasant companion and welcome guest, and his friends said that when he smiled there was something worth hearing underneath. This smile was the great charm of an otherwise inflexible countenance. It was unusually perceptible that evening, when, having been hospitably welcomed and fed, he seated himself by the drawing-room fire, in the midst of the vicar's family.

"Mr. John Moore!" he said, slowly and reflectively, in reply to many inquiries. "Yes; he is a rich man. He made his money in Australia, and has come home to spend it. He has a sickly wife, and is recommended to try the balmy breezes of the Isle of Beauty. Don't look so disappointed, girls. He has three sons—one a piece and one over. All grown up. And positively no daughters: no chance for you, Leonard. By the way, what are you going to do with yourself?"

As Mr. Conquest asked this question, he turned round and fixed two keen grey eyes on Leonard, who was at the moment thinking more of his davenport than of the future tenants of the manor.

"I—I—have a clerkship in the bank," he replied.

"And we think him very fortunate to get employment so soon," put in Mrs. Churchhouse.

"Hem!" coughed the lawyer, scanning Leonard's handsome face to his embarrassment. "Do you like the prospect?"

"Not much," replied Leonard, frankly. "But I have no choice."

Then Mr. Conquest inquired concerning his studies and pursuits, and the vicar replied for him that they had hitherto been classical, literary, athletic, and that he had gained many prizes and achieved some success in this varied curriculum.

"Hem!" drily ejaculated Mr. Conquest again, and returned to the subject of the Moores.

But when, subsequently, he was smoking his cigar in the vicar's study, he made more inquiries concerning Leonard. While the young man was nursing his grease over the unintelligible contents of the davenport, and mentally ejaculating, "I wish I was a lawyer," momentous issues were pending in which he was concerned. His uncle, who was not only fond but proud of him, showed Mr. Conquest some of his literary productions, which were certainly above the average of a youth of his years.

"I believe he would make a fortune had he only a chance," said the vicar, looking inquiringly at the lawyer as he ran over a MS. poem.

"Fortune! by literature? My dear fellow, where have you lived? One in a thousand swims; the rest either flounder on in muddy waters or sink altogether. Better try law," returned the other, nodding over the verses.

"How? There is no money," said Mr. Churchhouse.

"That is unfortunate. But he writes a fine, clear hand, which is far more useful than a poetical genius. We want a young fellow in the office who would give his time in return for his learning. Salary, *nil*, or nominal, at first, at least. Great advantages. Were I to advertise I should get a

thousand applications by return. Do you think this would suit him? If so, let him pack up and return with me."

"With you?"

"Yes. Why not? I am going to stay a few days, if you will keep me, for I want a holiday. Besides—"

"I will speak to Leonard at once; he is sure not to be in bed," exclaimed the excitable vicar; and before Mr. Conquest could remonstrate he had left the room. "Leonard, let me in," he whispered through the keyhole, when he reached his nephew's room.

The accompanying tap startled Leonard, and he went to the door, which was locked. Finding that it was his uncle, he turned the key gently and let him in. The important announcement was made instantly.

"This is providential! I was just wishing to be a lawyer," cried Leonard. "I will go, uncle. Once in London I can write for the periodicals at odd hours, and it will be hard if I cannot keep myself."

"And the bank?" suggested his uncle.

"And the davenport! I must take that. Do you think Urry could help me to hammer up a case for it?"

"How impetuous you are, Leonard"—the vicar was the more impetuous of the two.—"Where is the money to come from?"

"Look here, uncle," said Leonard, mysteriously, taking up an old pocket-book that he had turned out of the davenport only a few minutes before.

On examining its well-worn pockets he had discovered two five-pound notes, yellow with age, yet *bona fide* paper money. The vicar uplifted his hands.

"All that the davenport contains is honestly mine, uncle," said Leonard. "The squire little thought, when he left this pocket-book amongst his papers, that he would, after all, give me a start in life."

CHAPTER X.—"LES ADIEUX."

"A YOUTH of eighteen keep body and soul together by writing for the periodicals!" exclaimed Mr. Conquest, when he, Mr. Churchhouse, and Leonard were discussing matters. "Why, this island must be in the South Sea, and the hamlet of Lisle the centre of it. Surely you know enough of the world as it is to be aware that established authors and journalists can barely live by their profession. Even lawyers, who were formerly fabled to rule the world, have hard work to exist."

"You thrive upon semi-starvation anyhow," laughed the vicar. "And as to your wife!"

"She gets too obese. She is doing Banting. I am alarmed about her. But for her I could, perhaps, put up Leonard at our house till he sees his way; but we have both settled down into a domestic bliss so calm and even that the least innovation unsettles us."

"That is the misfortune of having no children," broke in the vicar.

"Misfortune! A merciful dispensation, on the

contrary. At any rate, we *dispense* with them admirably. But if Leonard didn't mind a shake-down in a closet, and his meals—well! Anyhow! Perhaps he could manage at my place in the Temple."

"Oh, sir! I could manage anywhere—anyhow," protested Leonard.

"We will see about it. Be ready to go to town with me, and we will try to do something for you if you do your duty by us."

"I will do my best, sir. I am truly grateful," stammered Leonard.

"I wouldn't advise you to be grateful till you find out what is expected of you. You may then be inclined to demand what you wouldn't receive—gratitude from us. Remember, you must stick to law. Leave literature behind you."

Leonard's countenance fell. However, he was of a sanguine nature, and believed that all would come right for him, so he began at once to prepare for a journey to London. The whole house was soon astir, and even his aunt became gracious, now that there was a prospect of getting him off her hands; though she was continually wondering what her sister Conquest could possibly do with him. His cousins were divided between genuine regret at losing him and jealousy of his good fortune at being the first to visit the metropolis.

"We hope to have you girls up some day. But your aunt's health won't allow it just now," said Mr. Conquest, while he caused Sophia and Lucy to chafe inwardly.

While Leonard was making his preparations and adieux, two subjects weighed heavily on his mind. These were his old davenport and the child Aveline. When the former was encased it made a weighty package, and he wondered what Mr. Conquest would think of it; and as to the latter, he knew not how to perform his promise to her. He confided both these difficulties to his uncle, who advised him to leave the davenport behind him, and promised to look after the little girl himself. But Leonard declared, almost in the words of Ruth, that where he went the davenport must go, which made his uncle laugh and say that he supposed his nephew expected to discover more old pocket-books.

Before the journey to London, he went to bid good-bye to his friends. As Mr. Conquest considered it part of his duty to see all his wife's relatives, Leonard drove him and his cousins to Newport. Having deposited his freight at Major Dallimore's, he put up his horse at the Bugle, and proceeded on his tour of leave-takings. He could scarcely tell why, but his thoughts turned first to the child Aveline. He had visited her from time to time, but began to feel almost shy at so doing, owing to the amusement his chivalrous feelings towards her caused his friends. On the present occasion he dreaded meeting her, still his feet turned towards the Blue School.

He had an interview, first with the mistress, afterwards with Aveline. The former told him that she hoped the child had become reconciled to her position. She was, she said, on the whole a good, obedient little girl, but seemed always to be on the watch as if about to escape from her

companions. She was singularly quick at her lessons, and, when quite natural, was bright and lively; but she was given to steal away into corners with a book, and was not sociable with her school-fellows. Although apparently innocent and open, it was difficult to understand her.

Leonard had heard all this before, and when the mistress left the room he pondered over it. She soon returned, however, with the child, who threw herself impetuously into his arms.

"My dear! My dear! You should not," remonstrated the mistress, as she left them together.

"I have been very good. I have done everything you told me. When shall I see my dear mamma?" she began, when he sat down and she stood by his side, her hand in his. "I can make my bed. I can dust the room. I can clean my boots and mend my stockings. I can lay the cloth, and keep my clothes tidy. I am going to learn to scrub, and wash, and cook. I have nearly knitted a stocking. I can hem and sew—let me see, what else can I do?"

What a sweet face it was that gazed into Leonard's as this enumeration continued, and how quaint the child looked in her little white cap, bibbed apron, and short frock!

"And the lessons, Aveline?" he asked.

"Oh, they are so easy!" she replied, with a little toss of her head. "I learnt more difficult ones with my dear mamma. When will she come back?"

"You must be patient, and work on. I feel sure we shall find her ultimately."

The word "ultimately" puzzled Aveline, and when Leonard explained what it meant, she only said, "Perhaps I shall then be so big that she will not know me. Will you not find her while I am little?"

"If I can possibly manage it, but—" returned Leonard, pausing and hesitating, "I am going away."

Aveline rose, with a cry of distress, and threw her arms about his neck. "If you go, I must go too; I cannot stop here all by myself!" she sobbed, clinging to him.

"Then you will not find your mamma. She will probably come here in search of you, and if you run away she will not be able to find you."

"Oh dear! Oh dear! What shall I do?" sobbed the poor child, as if her heart would break.

"I mean to work very hard that I may be clever and support myself; and perhaps, if you do the same, when she gets well she may come and live with you, and you may be able to comfort her," replied Leonard.

"How nice that would be! I will try!" she exclaimed, withdrawing her tear-stained face from his shoulder.

"And I will ask the Miss Dallimores to come and see you."

"They came! I don't like them. The big one asked me many questions and stared at me, and Quiz said you loved her better than me. But governess told me not to call her Quiz. Do you like her better than me? I do love you so very, very much!"

Had Leonard been vain he would have been flattered that two youthful belles should be struggling for priority in his affections. As it was, he was annoyed, and replied hastily, and with the assumption of superior age and intelligence, "I like you both very well when you are sensible, but I should not like either of you if you talked about me."

Aveline shrunk back abashed, but she never forgot those words. He soon reassured her by inquiring, as he always did, if she was happy. He received the usual reply that she should be happy if she could find her mother. Indeed, he knew that she was kindly treated, but his tender heart could not bear the slow tears that coursed down her cheeks. He wanted to give her some trifling remembrance, in the hope that it would stay them, and he took a memorandum-book from his pocket, which had been given to him at Christmas, as it chanced, by Quiz. He bade her keep it for his sake, and be a "very good little girl." He might have been her father or master, his words were so measured. But as he rose to leave her he was startled by the piteous cry that seemed to fill the room. It brought the mistress, who entered while she was clinging to Leonard.

"Oh, my dear! my dear! for shame!" said that excellent woman, taking her by the hand, while Leonard escaped, with unbidden tears in his own eyes.

His other leave-takings were tame compared with this. He hurried from house to house—from friend to friend. The old grammar school, the vicarage, the abodes of lawyer and doctor, and many others were rapidly visited. All their inmates rejoiced in his good-fortune, and bade him God-speed. The bank clerks, who were to have been his co-workers, wished themselves in his place, and his former schoolmates thought it must be particularly jolly to go to London. At the Dallimores he found Mr. Conquest and his cousins, but nobody save Quiz had much time to think of him; all were occupied by the son and heir.

Twelve months of heirship had already made an autocrat of Lisle. He ruled the house, and when Leonard entered was the centre of a circle. He was, in fact, being exhibited for the benefit of Uncle Conquest, who, though he hated children, was expected to love this youthful prodigy. He made a great effort to do so, as in duty bound—for was he not his London lawyer for his education and sustentation?

When we were first introduced to this "Marvellous Boy," he was content to suck his thumb and a lump of sugar, seated on the hearthrug; now he footed it in the renovated drawing-room, a whip in one hand, a sponge-cake in the other. He had all the appearance of "a bloated aristocrat," for incessant feeding had swelled his cheeks and much enlarged his small frame. Attired as he was in black velvet and lace, from ornamented cap to shining skirt, he might have been a miniature King Hal, or a beef-eater in gorgeous array. A splendid new nurse, Chiverton by name, lorded it over the patient Ann, for, as heir of Lisle, he needed two body-servants, and Chiverton was

chief. She was, at the moment, waiting inside the door to bear the youthful tyrant to his perambulator outside the house.

"Go to Uncle Conquest, darling," said Mrs. Dallimore, coaxingly, peering down upon him through her glasses, as she stood in trepidation at his back.

"He won't go to a stranger, my dear. Come to papa, like a man," put in the major, holding out his hands.

"I think he feels inclined to make friends with me," said Lucy, darting down upon him as he evaded his father.

He began to roar, which distressed Lucy and annoyed his nearer relatives.

"Better let Chiverton take him out. He will get no exercise before sleeping time," said Isabella, decidedly.

"Pray do. Don't keep him in on my account," remarked Mr. Conquest. "A fine boy. A very fine boy. Will have to do Banting, though, if you don't take care, like his aunt."

"A very fine healthy child," returned Mrs. Dallimore, offended.

"Now, my precious, come to Chivy," breathed a silvery voice. "Come and see the geegees."

Lisle stayed his roar to look in the direction of the voice, which caused the maid to advance, seize upon him, and carry him off.

When this little scene was over, Leonard said he had come to take leave, and that having yet to see M. and Madame d'Angère, he must do so at once.

"I am sure I wish you well, Leonard," said Mrs. Dallimore, who had been anything but a well-wisher during the squire's life. "It is very good of Mr. Conquest to give you such a fine chance."

"Very," replied Leonard, glancing at that gentleman.

"Fine is not the word, Mrs. Dallimore," interrupted Mr. Conquest. "Hard would be better. Hard work and no pay, and to give more than he gets. That's the upshot of my kindness. An artful clerk without the articles."

Leonard shook hands all round.

"Good-bye; I wish you well with all my heart. I declare there's Lisle in the wake of the Blue School," said Major Dallimore, looking out of the window.

Leonard was followed downstairs by the three Dallimore girls, and when they reached the hall they became confidential. Isabella declared that Leonard had the luck of the world to be going to live in London, and that she meant to ask Uncle Conquest downright to send her an invitation; Helen, who was domestic, thought that "Home sweet home" was best; and Quiz declared her intention of writing a journal, and sending it weekly to him.

"Then you will know all about us," she added. "But I shan't mention your protégée, because I don't like her. You are *my* friend, not hers. A little Blue School girl, indeed! A poor tramp!"

"You can be no friend of mine if you say such unkind things," returned Leonard, hotly. "I thought you were much more generous-hearted."

"But I like my friends all to myself," she added, reluctantly.

"All right. I hope you will none of you forget me," said Leonard, one foot on the doorstep, and his hand in Isabella's, who grasped it with all the force of her nature.

"Be a good boy, and tell aunt to invite me," she said, while Quiz began to cry.

He had fancied that nobody cared much for him, and was surprised at the unexpected interest. As he lifted his cap and stepped out upon the pavement the three girls pressed forward to see the last of him, Quiz kissing her hand as he hurried up the street.

He had a kind welcome at Fontainebleau Cottage, chorused by dogs and parrot. He could not stay long, he said; indeed, he was so excited that he could rest nowhere. But he delivered himself speedily of what weighed heaviest on his mind.

"Aunt Amicia," he began, "you seemed interested in the little Blue School girl whose mother is lost sight of. If ever you think kindly of me, as I hope you may sometimes, will you then turn your thoughts to her, and look after her a little?"

"That pretty little girl who ran after you? We will ask her to come and have tea with Lilywhite," replied madame.

"That will be something," reflected Leonard.

"And we will introduce her to Jacquot and the dogs, mon amie?" suggested monsieur.

"If you would be as kind to her as you have been to me, she might not feel so lonely," said Leonard. "Thank you both. I must go now."

The trio went together to the gate, and just then the Blue School passed, on their return from a walk to the castle. Aveline ran, unbidden, to his side. Her eyes were swollen with weeping, but joy shone in them at seeing him once more. The mistress followed, distressed at this escapade, and whispering to Leonard,

"She has done nothing but cry ever since you left her."

"This is the little girl, Aunt Amicia. Her name is Aveline Roone," said Leonard, leading the child to Madame d'Angère, who was standing inside the gate, surrounded by her dogs.

These spoilt animals had been barking furiously at the Blue School, under cover of their mistress's petticoats; but no sooner did Aveline uplift her pretty, tearful, trustful face to that lady's, than the trio jumped upon her in friendly fashion.

"What marvel! What miracle! Love at first sight! It is a little angel!" exclaimed monsieur, bending over Aveline; while she, impulsively, stooped to caress the discriminating quadrupeds.

"I beg your pardon for intruding, Madame d'Angère," said the mistress across the hedge, "but Mr. Leonard has been so good to the child that she don't understand her place."

"Let her come and have tea with your old pupil, Lilywhite," returned madame, "the very next holiday."

"Then you can play with the leetle dawgs," added monsieur.

Aveline looked from one to another, then turned her beseeching eyes on Leonard. In another

moment the mistress took possession of her, and she was lost to view in the pretty picturesque procession that walked down the hill.

CHAPTER XI.—CHAMBERS.



He is a very nice young fellow, and would make himself generally useful and agreeable," said Mr. Conquest to his wife, the morning after his return to town from the island.

"Sister Churchhouse has had him long enough. I don't want him," replied the better half. "If you take him as clerk, I see no reason that I should be burdened with him."

"That dressing-room with a bed in it would be big enough, and he wouldn't mind how or where he got his meals," pleaded the barrister.

"But Mr. Churchhouse would. He has his pride. Besides, I am too great an invalid. And how is he to come and go every day? It would cost a fortune," argued his partner.

He was posed. He had not taken this into consideration.

The Conquests lived at Hampstead, and occupied a large and delightful house overlooking the heath. They had frequently changed their residence during their twenty years of married life, on account of the lady's health, but they believed themselves now settled; for even she acknowledged that there could be no finer or more invigorating air than that of Hampstead Heath. Their house was roomy enough to accommodate a large family, but, having no children of her own, Mrs. Conquest would not understand that she ought to adopt other people's. She was not philanthropic, and even went so far as to declare that young people were a bore, and that her own nieces were only endurable at a distance. Yet, to see her enormous frame and singularly good-humoured handsome face, you would have thought her capable of opening her arms to the whole world. But she either was, or fancied herself, an invalid, and so wrapped the said arms closely

round her maladies as if they were her offspring, which, as a matter of fact, they were. All the Lisles, from the squire downwards, had the reputation of selfishness, and this was acquired by circumstances; for the squire had been an only son, and had everything his own way, while his relatives had been obliged to keep up an appearance on straitened means, and bounded their views by the horizon of their island.

Mr. Conquest was naturally liberal, but law and his wife had also narrowed his views. Still, he sometimes did a good action by impulse, which he repented of when these, his advisers, represented to him its fallacy. Already he was beginning to be sorry that he had brought Leonard up to London. But here he was, and he must do something for and with him. He had left him at a private hotel the previous evening, not venturing to introduce him to his wife unannounced, and his preliminary observations at the breakfast-table had certainly not been propitious. Still, he was not without hope that Leonard himself might soften the heart that lay encased in the centre of that huge circumference. He did not venture on remonstrance, however, but said, as he rose from table, that he must think of some other plan.

"Pray do, darling," said Mrs. Conquest, rising also.

Now "the darling" was not hypocritical, for was not he half of herself, round which she enfolded the arms aforementioned, while embracing her own peculiarities? She kissed him, took up his black bag, and carried it after him to the hall door, kissed her hand to him as he ran down the drive, and watched him till he disappeared on the heath. This little ceremonial had taken place every morning, when he was at home, for over a score of years. Would it be possible for a husband to contradict so devoted a wife?

He had no such intention; but when, at the risk of a *stroke* of some sort, he reached his train barely in time, he settled himself to consider some other plan.

In spite of his adoring wife, he had never quite relinquished his bachelor habits. Having no drain on his purse in the way of children, he had seen no reason why he should do so. He had, therefore, never given up his chambers in the Temple, to which he had quite a sentimental attachment. He had offices as well, but he clung to these scenes of his youth, where, if the truth must be told, he still occasionally entertained a few choice friends, after the manner of his more juvenile years.

"I don't really want the bedroom; if I do, he must turn out," he muttered, as he swung out of his train, caught a hansom, and reached the hotel where Leonard had slept, somewhere, he thought, very near the sky. Leonard was waiting for him, according to order, in the coffee-room.

"Haven't a minute to lose. An appointment at 10.30. Jump in. Shove up the box," he said, as the astonished youth was about to make the customary morning greetings.

They were in the Temple in no time. A porter, quick of sight, followed them to Mr. Conquest's chambers, and volunteered to carry the box.

Leonard was about to declare his own capacity for so doing, when he perceived that it was already shouldered. He had barely time to notice that on either side of an arched doorway certain names were painted in clear black letters, when Mr. Conquest bade him follow him. Young as he was, the barrister seemed the more active of the twain. Up a broad stone staircase, two steps at a time, to the first landing. No pause there. Another, and another, and again another flight of stone steps, until he stopped breathless before a door, on the stone framework of which was imprinted "Mr. Conquest" in well-defined black letters.

"Fortunate we didn't bring the davenport!" said that gentleman, leading the way into a small room. "Make yourself at home here, Leonard, till I come back, which shall be as soon as possible. Stow away your goods, for this den is yours, for the present at least. Smells awfully musty though."

So thought Leonard as Mr. Conquest withdrew, and was almost immediately succeeded by the porter, who put down the box and waited payment. He gave him a shilling, and asked him the name of the place to which he had so rapidly arrived.

"Dr. Johnson's Buildings, sir. And that's Hare Court as you looks out upon," replied the man, hurrying off and leaving Leonard to his reflections, or rather to a survey of his scantily furnished apartment, which was seldom used by Mr. Conquest.

"There is a place for the davenport," thought Leonard, perceiving a space near the window. "The room cannot have been occupied for a century," he muttered aloud, throwing up the window.

What a pleasant surprise! In the centre of an old court was an enormous tree, the topmost branches of which touched his window. Time-worn houses of stone and brick surrounded it, in which he at once imagined that all the celebrities of all the ages had, from time to time, resided. How quiet it was! No sound but the chirping of many sparrows in the big tree, and yet he was in the heart of London.

"With my davenport to write upon, what may I, too, not accomplish in this—garret? no, chamber, I suppose it should be called; but where am I to sleep?" he mused. "The squire did me a good turn, after all, when he left me the davenport. But for the ten-pound note I could neither have paid breakfast nor porter. I wonder how I am to live?"

It did not occur to him to question why Mr. Conquest had left him to his own devices; nor, in fact, did it occur to that gentleman to pay his modest bill. He had been too hurried to think of it. But to Leonard's mind a vision of "Chatterton, the marvellous boy," presented itself, and he began his career by understanding that it would be easy for a friendless lad to starve in such a room as he then occupied.

He was startled by a knock at the door. He opened it, expecting Mr. Conquest, but was greeted instead by a little woman with a broom in one hand, a duster in the other. She wore a

dirty cap, had her hair in curl-papers, and was, to Leonard's unaccustomed eyes, a very disreputable-looking person.

"Mr. Conquest told me to look in, sir, and see if there was anything I could do for you. I came as soon as I could," she said, surveying Leonard with two keen little grey eyes, which, though sharp, were not unpleasant.

"Thank you; pray come in," returned Leonard. "I believe I am to live here, but I don't understand how."

"You'll soon learn. Mr. Conquest told me to get you what was ushul, and to see that this room was turned into a bedchamber, which ain't ushul, because Mr. Conquest lives at Hampstead. A bed, and a chest of drawers, and a washstand, that'll do. Crockery in the cupboard. Here's a dust, to be sure! Cupboard hasn't been opened for years."

She unfastened a cupboard with some difficulty, in which Leonard saw a variety of articles, well encased in a thick coating of dust.

"See to it," she continued, "when I've leisure. The chamber shall be ready by bed-time. Don't s'pose you'll want it afore. Office and amusements occupies the day."

"And my dinner?" questioned Leonard.

"The gen'lemen mostly gets that out. They only breakfasts here. Some biles their own kettle, some doesn't. Then they has tea when they likes."

"I will ask Mr. Conquest about it," said Leonard, feeling that the sharp eyes were interrogative. "May I inquire your name?"

"Pluckrose, Mrs. Pluckrose; that's my name."

"It sounds quite countrified," said Leonard.

"Do it? I was never in the country in my life; but I'm going a scurction this autumn when term's over. My children gets country enough since the Temple Gardens has been open of a evening, and the Embankment and the Thames is just as good for 'em as the sea. But, between you and me, the Law don't like it, for, my gracious! they do make a rookery of the place."

With this Mrs. Pluckrose vanished, and Leonard was again alone. He seated himself near the window and took out his purse. He had made a hole in his ten pounds before he left the vicarage, for he had given presents to the servants and a dole to the poor. But Mr. Conquest had paid his fare to London, and his uncle had bade him let him know when his money was exhausted, so he contemplated what remained without great anxiety. Not that he intended to ask his uncle for money. Having faith, he had no fear, and left his future in the hands of Him who ruled it.

And this was London! A narrow room, an old court, and a large plane-tree. He took out his pocket-book and began some verses on this theme. Rhyme was easy to him, and he soon threw off a long poem, laughing as he did so to think that his consolation in the country was still his comfort in town.

"Now I must cut it down," he ejaculated, beginning to use the pruning-knife with a will; not to the big tree, but his poem.

He was of the stuff that makes authors, for

while spouting his verses he reduced them by one half. There was a sparrow's nest in the big tree, which gave him an idea, and set him wondering whether an individual of the genus tree-sparrow could have joined the huge colony of Londoners.

While philosophising there was a brisk knock at his door, and in came Mr. Conquest.

"Sorry I've been so long. Have you been out to see the Temple? Grandest sight in London."

"No, sir; you told me to wait till you came back."

"Has Pluckrose been? All right! She's a character, and only requires to be let alone."

"I don't think I shall interfere with her, sir."

They both laughed, and Mr. Conquest told Leonard to come with him and have something to eat. The young man followed, nothing loth, and they went to a restaurant, where he did honour to the good dinner his friend ordered for him.

"Keep up your strength and appetite, you'll need them in London. Now we'll go to the office," said Mr. Conquest.

This was in Chancery Lane, and here presided Mr. Charles Conquest, a younger brother of the barrister, who was a lawyer. It is needless to say that the brothers played comfortably into one another's hands, and had a considerable practice, both at the bar and in common law.

"This is my young friend, Leonard Leigh, Charley," said Mr. Conquest, when they reached the office, after threading the dark and dirty mazes of the lane and mounting to the third storey.

"Ah, to be sure! I remember," ejaculated Mr. Charles Conquest, very slowly, while quietly completing a note he was writing.

As he did not raise his eyes Leonard was able to remark upon him and the room in which he was located. The latter was dark, but large, and contained, besides the table at which he wrote, one or two high desks, with commensurately elevated office-stools before them. Pigeon-holes for deeds, papers and parchments, red-tape, and a vacant chair or two completed the furniture. To judge from the white head that bent over the table, the younger brother would have been the elder; but when Mr. Charles Conquest at last looked up Leonard was surprised by a comparatively young face. It was pale and thoughtful, and the blue eyes that met Leonard's were absent and melancholy. He was certainly not the typical lawyer, whatever that may be. He stretched out his hand, absently, without rising, and said, "How d'ye do? How did you leave your uncle and his family?" much as if he had been apostrophising a mummy. Leonard took the white lank hand across the table, and, in his zealous youth and country breeding, shook it—as much as it was possible to shake so limp a machine. Its owner suddenly gazed into the lad's face and returned the grip of his hand.

"Thank you!" said Leonard, involuntarily, for it was the first friendly pressure he had felt since he had left home.

"For what?" asked the absent lawyer.

"For what you are going to do for him, Charley," laughed Mr. Conquest. "You want a clerk—or pupil, as may be—and here he is. He

writes a capital hand, and can express himself well in prose and verse; can spell, and knows Latin, etc., etc.—at least, so Churchhouse assures me.”

“What else?” asked Mr. Charles, gazing at a parchment.

“Answer for yourself, Leonard,” said Conquest the elder.

“I will do my best,” replied the lad, modestly.

“Then sit down, and I will find you something to do,” said the lawyer.

“Get upon your perch, Leonard,” said Mr. Conquest, pointing to the vacant desk and form. “The young fellow who preceded you is rising in the world, and so will you.”

“I have risen already,” laughed Leonard when he had climbed to the indicated height, and sat, tall and erect, on the office-stool.

“He’ll do, Charley,” whispered Conquest senior to Conquest junior. “But there’s no money to article him, so you must give him a nominal salary for his bread-and-cheese, while I house him; his uncle will do the rest.”

And thus Leonard Leigh began his forensic education.

CHAPTER XII.—A VELINE’S HOLIDAY.

“**A**H! but shall she not drink tea with the dawgs, ma mie? They are already quite at home with her,” said M. d’Angère to his wife.

“In the kitchen, mon Alphonse? They will not take a meal in the kitchen, for they do not like Lilywhite. I fear she ill-treats them behind our backs,” replied madame.

“Then shall the child not join us, so that they may also enjoy her society? *Pauvre petite!* she seem so friendless now that Leonard has departed.”

“*Frou Frou* is quite excited, Alphonse! See how he jumps around her, and *Loulou* runs also! As to *Douxdoûx*, it is really extraordinary! He is quite out of his mind.”

M. and Madame d’Angère were looking out of the dining-room window at Aveline and their three pets. The child had come at their invitation to spend a holiday afternoon with them, and she and the dogs were disporting themselves in the *Plaisance*, to which they were allowed admittance during the haymaking. She seemed to forget her troubles in the excitement of the moment. Now she ran hither and thither, surrounded by the dogs; anon she sat down upon the new-made hay, and let the excited animals jump about her, lick her face and hands, and bark to their heart’s content. The gipsy-bonnet fell back upon her shoulder, the clean white apron was rumpled; even the blossom-white cap was in danger of being misplaced. The woodland rang with her laughter, and she had not been so happy since the day when she made friends with Toby.

“Won’t you catch it, that’s all! There’s a mess you’ve made of your apron!” sounded from *Fontainebleau Cottage*.

It was Lilywhite, who was looking out of the kitchen window in envious displeasure.

“Let her alone, Lilywhite. You shall iron out her apron before she leaves. See how fond the dogs are of her!” screamed Madame d’Angère from the open window out of which she was gazing.

“I wish you may get it,” muttered Lilywhite, under her breath; “a beggar’s brat like her!”

“Shall we join them, Amicia?” asked M. d’Angère. “The grass is dry; your pretty foot will not wet itself.”

“But the wind will disarrange your hair, Alphonse, and I have made the most perfect curls!”

“Hein! my friend, there is no wind, and I will wear no hat.”

The pair went arm-in-arm through the little garden into the road, and thence immediately through an open gate into the *Plaisance*, madame glancing furtively round during this short transit, to be sure that no one was near to see her bonnetless. They found Aveline smoothing her apron, and casting frightened glances towards the kitchen window.

“Have no fear, she shall not hurt you, *ma petite belle*,” said monsieur. “Take my hand, and we will walk, is it not, my friend? Hark to the birds! They warble like angels.”

Aveline took M. d’Angère’s offered hand, and the trio wandered round the tree-enclosed hayfield, followed by the dogs. They passed beneath the windows of the cottage, from one of which still looked the displeased Lilywhite. But no one else observed them, for the haymakers had gone to a neighbouring field, and this was quite shut in.

“We are fortunate in our *Plaisance*,” said the Frenchman, for the thousandth time; “is it not so, *ma petite?*”

“Oh! yes, sir, it is beautiful,” replied Aveline, dancing at his side. “I wish my dear mamma were here.”

“She understand French, *mon amie!* The miracle! How know you the meaning of *ma petite?*” he asked.

“My dear mamma taught me,” replied the child, a cloud instantly passing over the sweet face.

“Her dear mamma!” repeated Madame d’Angère. “She shall have tea with us, Alphonse. We shall then see if she knows how to behave. She really seems above the common.”

Shortly after the child was seated demure, but not shy, at the tea-table; she evidently “knew how to behave,” and how to talk as well, for she not only answered all the questions asked her, but put others in return. M. d’Angère was in a continued state of amazement. She was even more charming than his favourite Quiz, and better mannered. As to the dogs, they paid her almost as much attention as their mistress, which caused that lady to say,

“Have you been used to dogs, that they are so fond of you?”

“No, ma’am, but I love them so, that they love me,” she replied.

“I suppose you don’t know how to wash them and comb their hair?”

“I never tried, but I should like to do that.”

"Are they fond of it, ma'am?" She laughed merrily.

"No; they don't like it at all. And Lilywhite hates washing them;" madame's voice sank to a whisper. "You shall wash them when you come again."

Aveline clapped her hands, which caused the dogs to bark and monsieur to laugh.

"Oh! that would be nice!" she said.

Poor child! Happy for a brief space once more! For the moment she forgot her mother, and her kind entertainers did not recall her. But she did not forget Leonard. She asked eagerly about him.

"He has not found time to write to us!" said madame, offended.

"Nor to me," added the child, dejected.

"Ha! ha! M. Léonard. Thou must write many letters," laughed monsieur, and a loud cackling came from Polly, who was in the garden.

Aveline started.

"It is the parrot! We will bring her in," cried M. d'Angère, hurrying out and returning with the cage.

The bird was soon on his arm and the child off her chair.

"Take care! she will bite you! She love not children," said M. d'Angère.

But Aveline's little hand was already fearlessly smoothing its unruffled feathers, and her pretty voice apostrophising it with,

"Pretty Polly. You are like my dear old Polly, that my papa brought me from ever, ever so far."

"A marvel! a miracle. See, Amicia!" said monsieur, as the bird clucked and chuckled, and eyed Aveline with sly, uncertain glance. Monsieur slipped a lump of sugar into her hand, which she transferred to Polly, and it was apparent that she had made another conquest. She stood with her hand laid confidently on M. d'Angère's knee, and her face close to the bird, when it suddenly screamed out "Kiss! kiss!" and her rosy lips were offered to his sharp bill. Madame was frightened, but Aveline fearless and unconscious. Fearlessness will tame a lion. So Polly and the little girl made believe to kiss, after which they both laughed heartily.

"Can you clean a parrot's cage, child?" asked madame.

"Oh, yes! my dear mamma and I used always to clean my Polly's, till we gave her away, because we could not take her about with us. Poor Polly!"

Tears sprang into the child's blue eyes.

"We must adopt her, mamie; let us adopt her," said M. d'Angère, in French, pressing his lips on her forehead.

"To wash the dogs, and clean the parrot, and run errands, and watch that I am not disturbed when I sleep, and answer the door if Lilywhite is not neat, and—but she is too young, mon Alphonse," soliloquised madame.

"I could do more than that, if only you would help me to find my dear mamma," cried Aveline.

While they were thus conversing, Mr. Churchhouse looked in.

"Ha! my little friend!" he exclaimed, on seeing Aveline. "I must write to Leonard to-morrow, and I shall be able to tell him how his protégée is. I hear you are getting on very well at school."

"And what does Leonard say for himself? He has not written to us," remarked Madame d'Angère.

"He seems to have plenty to do already," replied the vicar. "The Conquests have taken him up, and he is likely to become a lawyer, without paying a premium. But how he is to live, is another side of the question. He writes hopefully himself, and as he has plenty of spirit, I think he is sure to get on. He sends kind messages to every one, together with a promise to write when he has time."

Aveline's eyes were fixed on the speaker. Her lips parted as if to put a question, but she had not the courage. She would like to have asked where, in the great city, this her friend lived, so that she might, perhaps, write to him, but she dared not.

"You may take the dawgs for a leetle run in the Plaisance, is it not, mon ami?" said monsieur, suddenly; and poor Aveline was not permitted to hear more of her protector.

When she had left the room, the conversation still fell on Leonard.

"I have just dispatched his unwieldy package. It was too heavy to go as luggage," said his uncle. "The squire's legacy to him promises to be more plague than profit. He says he can find space for it in the room which Conquest has kindly allotted to him, so I sent it off, amid the sneers of my womankind, who consider us both mad. I am afraid the squire's bequests will not turn to such good accounts as they might had he made his nieces co-heiresses, eh, Amicia?"

"I am quite content, and so is Alphonse," bridled up madame.

"Ma foi! but the heir! How they spoil him!" exclaimed monsieur. "The difference in the children! The dawgs already fear him, and they make friends at once with the little charity girl down there in the garden. See them, how they run! Hear them, how they bark!"

Mr. Churchhouse glanced from the tea-table, at which he was regaling himself, into the field. Aveline and the dogs were in high sport again.

"She is a sweet child. I wish we could find her mother," he said.

"She will probably be in some asylum. I would like to do something for the leetle girl."

"Lilywhite grumbles over her work," remarked Madame d'Angère. "We have now an increase of fortune, and think we might keep a little maid to help her. We have taken a fancy to that child, both Alphonse and myself, and perhaps she might live with us and still attend school daily; she would take the pets off Lilywhite's hands—"

"And they are very rough hands, ha, ha!" broke in monsieur.

"And when she is old enough might take Lilywhite's place, who already talks of the time when she can 'better herself,'" continued madame.

"What a mind she has! How far she sees in

the future!" exclaimed monsieur, seizing his wife's hand and kissing it, while she simpered approvingly.

Mr. Churchhouse looked from one to the other amused. "You want a sort of nurse-girl for Frou Frou, Doudoux, and Loulou," he suggested.

"That is it! and for the parroquet also," replied monsieur.

"I scarcely see how it can be managed, since the child is elected a boarder in the Blue School," said the good-natured vicar.

At this moment the church clock struck seven, and Aveline made her appearance. "If you please, ma'am, it is time for me to go," she said.

"Ring, mon Alphonse, and tell Lilywhite to accompany her," said Madame d'Angère.

"If you please, I know my way quite well, and I promised not to run off in search of my dear mamma. Indeed, indeed, I will keep my word! My dear mamma said I always did. But may I go alone?"

"You like not the Lilyvite, my child?"

"She shall come with me; I am going to pick up the carriage in the town," put in Mr. Churchhouse; and in a few minutes he and Aveline were walking, hand-in-hand, down the New Village.

"Where would you like to live best—at the Blue School or Fontainebleau Cottage?" he asked.

She hesitated, as if fearing to give offence; then poured forth a little volume of prattle, when he repeated his question.

"If I cannot live with my dear mamma I should like best to live at Fontainebleau Cottage with the kind gentleman and lady, and the pretty dogs, and the parrot, but not with Lilywhite."

"Why not with Lilywhite?"

"She makes me afraid."

"You like Carisbrooke better than Newport. Why?"

"I love the trees and fields, and the old castle, and the dark ivy. I love to hear the wind which we cannot see, and watch the flowers which we cannot hear. I then think of God, who moves the winds and clothes the flowers, and feel sure that He will care for my dear mamma."

"Who teaches you these things?"

"Oh, sir! they are all in the Bible; and when my dear mamma was well she taught me. And we learn and read it at school, and it makes me good when I wish to be naughty."

"I hope you are happy at school. They are kind to you?"

"Oh yes! Every one is kind, and I try to be happy, indeed I do, though the little girls tease me sometimes because I never learnt to play. But my dear mamma was too ill to play, and I had no one else."

"Poor child!"

This involuntary ejaculation, and a pressure of the small hand, brought the ready tears to Aveline's eyes. They were checked, however, while waiting with her friend at the hotel door until the carriage was brought round, and by a lift in the said conveyance to the school. Here Mr. Churchhouse called to a boy to hold his horse while he

accompanied her into the house, and had a brief interview with the mistress.

CHAPTER XIII.—FIVE YEARS.

WHAT a strange, restless, anxious, laborious life did Leonard Leigh lead in that quiet court in the Temple the next five years of his life! Some might have called it monotonous, but to him it was heart-stirring. Yet the curse that fell on Adam descended to him, for "in the sweat of his brow" he assuredly eat his daily bread. Yet to him it was not a curse, but a blessing. Of what the world calls pleasure he had none; of the life which most young men live in great cities he knew little. When the office hours were over he devoted the remainder of the day and part of the night to literature. Seated at the old davenport in the corner by the window, he was either unravelling its contents or the mazy threads of unspun ideas that filled his own brain. By degrees the puzzled papers of the one were reduced to some sort of order, and the twisted skein of the other partially unwound. The perplexing intricacies of law, combined with these other webs, united to make the warp and woof of his being a very tangled fabric, and time, talent, and thought were necessarily spent on it.

Leisure he had none; a holiday he never took. Nevertheless he saw much of life between Johnson's Buildings, Chancery Lane, and such places as the Messrs. Conquest sent him to, for truly, as Heine said, "The pulse of the world beats in the mighty City of London." And Leonard's pulses beat with it; they were hourly stirred by what he saw and learnt in the retired Temple, in the surging Strand, in the absorbing office. But for this, self might have usurped the throne of his heart. The ever-flowing tide of humanity that bounded him on all sides reminded him that he was only one wave of this huge ocean, and while he panted to rise high, he felt that he was only part of one vast whole.

Not that he shirked society—he made acquaintances and even friends; but he was too poor to entertain them, and too proud to be entertained. This poverty! what a clog, yet what a spur it is. To Leonard it was a goad that was always piercing him. But it ever impelled him in the same direction. His bent was literature. From magazine to magazine, from editor to editor he went, either in person or by letter, with manuscripts innumerable. Happily, he was not discouraged; indeed, he was not without some encouragement. The Great Moguls that sit on their divans behind the editorial screen are sometimes appreciative, and grasp at an original idea, in the hope of finding some fresh tonic to improve the public digestion. And Leonard had, perhaps, as much originality as most of the hapless crew who wear out their own intellects in an endeavour to amuse or improve those of other people. Yet time passed, years even, before his labours bore fruit. But he began to reap when he least expected, and when he was nearly giving up in despair.

One day he received a letter from a live editor

to the effect that if Mr. Davenport could shorten the article he had written by one-half, the editor would be glad to use it. Davenport was the signature he had chosen. Leonard was not proud, so he set to work to curtail the manuscript. None but an author can understand how this process upset his equilibrium. At first he found it quite impossible. How was he to make *multum in parvo* of pages he had written, as he thought, with the utmost brevity already? Why was one man to usurp dominion over another in this tyrannical fashion? He sat up half the night revising, copying, dashing his pen irritably through his most eloquent sentences, until he felt secure that he had ruined his paper. Nothing but the consciousness of an empty purse and a vision of his aunt could have stirred up his courage to murder his work—at least, so he thought. But he did murder it, nevertheless, and he had no reason to regret his wicked deed; for he was actually rewarded for it by a printed proof thereof.

The proof, directed "Davenport, Esq.," was brought to him by Mrs. Pluckrose. She had taken a fancy and a pity for the lonely young man, having, as she expressed it, "her feelings and children of her own," and began to reason with him concerning the impropriety of having two names. "A alias or a alibi is all very well for them swindlers, but don't do for the likes o' you, sir," she said, severely.

"See, Mrs. Pluckrose!" he exclaimed, tearing through the envelope of his proof in much excitement. "It is only a *nom de plume*. I have been writing for the press, that is all. This is my signature. But you must keep my secret."

She glanced over his shoulder, and there, at the end of the printed matter, was certainly the name "Davenport."

"Poor young gentleman! I pity you," she exclaimed, with uplifted hands.

"Why, Mrs. Pluckrose? I am overjoyed."

"I've seen a many just the same. Bless you! I've watched 'em grow into skelingtons upon that very sort o' food. Take my word for it, nothink don't come of it. Briefs is bad enough, but articles is worse."

With which ominous sentiment Pluckrose left the room.

"That is just what the editor of 'The Nation' said. 'All the barristers write. We get cartloads of manuscripts from them every month.' Still, one must live, and I have made a beginning."

With which soliloquy Leonard locked his precious proof into his davenport, and hurried off to his office.

It would be difficult to describe the delight with which, after a hard day's work, both in and out of the said office, he returned to a frugal tea and his davenport, or how he read and re-read, corrected and re-corrected those printed thoughts of his, so soon to be given to the public. Yet had he never before felt so humble. Were they worthy of publication, after all; and what was he that he should thrust his notions upon the world?

However, forth they went, and he yet had to wait several months before they actually appeared. But he still wrote on, and always as "Davenport."

A cheque for three pounds was the first announcement that he was actually in print.

He rushed out to purchase the popular magazine that had accepted him, and read over his article with delight. He was compelled to confess that it was not injured, after all, by curtailment. He wanted sympathy. He must tell some one, yet he would preserve his anonymism. He stumbled upon Pluckrose, and showed her the magazine and the signature. She looked at him and it with astonishment.

"Bless me! Your eyes are as bright as two stars. Who'd a' thought that a bit o' printed paper would make you look so handsome?" she said.

After this, in the evening, he wandered down to the Temple Gardens, and mixed with the dirty, uproarious urchins that made a rookery of that sacred spot. He watched them pour in through the iron gates as soon as they were opened, and thought what a boon for the youngsters, if not for the Benchers, was this admission from six to nine. Surely the gardens had never been utilised before, since how few, comparatively, of the denizens of the Temple ever entered them. Now barefooted children lugged in barelegged babies, street Arabs made somersaults on the grass, hundreds of juvenile voices united in a Babel of sound, and it seemed as if the learned retreat of the big-wigs of centuries had suddenly become a pandemonium of youthful criminals.

"Here are studies of human nature!" mused Leonard, as he discoursed with one and another of the miscellaneous throng. "One needn't go far from the Temple and the Law Courts to learn something of the miseries of the world."

And by a sudden transition of thought, Aveline stood before him in the person of a blue-eyed little girl who was one of a small group that had gathered round him. A pang of reproach came with this memory, for in the turmoil of life he had almost forgotten her.

He was suddenly joined by a young man of whom he knew something, and to whom he had been introduced by Mr. Conquest senior, as the son of the new tenant of Lisle Manor—Mr. Moore. He was studying for the Bar, and had many interests in common with Leonard. Whenever they met they were sure to talk about Lisle and its inhabitants, of whom young Moore knew almost more than Leonard of late. It was, moreover, evident that his heart was there, and Lucy Church-house had secured it; for whatever the topic started it was pretty sure to revert to her. As Mr. Conquest had suggested, the Moores made a pleasant new element at the manor.

"I suppose you will come down this autumn?" he said, as the two young men sauntered round the garden. "What a row those youngsters make! One can't hear one's own voice. Miss Lucy says you haven't been in the country for four or five years. I'm sure you work hard enough to deserve a holiday."

"I must work harder before I can afford to take one," replied Leonard. "Besides, I am not particularly wanted by any one. They can all do without me."

There was a pause, for it was impossible to deny the fact that the world of Lisle moved on much as usual, whether Leonard were in it or not. Still he longed to be there again, and never tired of talking of the familiar scenes and people.

"I have just been reading a clever political article in 'The Nation,' by a new writer who signs himself 'Davenport,'" said Moore. "It is rather go-ahead, but I like it. Have you seen it?"

Leonard started and coloured. Not only to be in print, but to be appreciated, was more than he



"CAN IT BE AVELINE?"

could have expected in these days of cursory reading and half-fledged criticisms. He muttered some sort of affirmative in reply, and repressed with difficulty a desire to shake hands with Moore and make another confidant.

"You are not well, Leigh. You turn red and pale in a second. You really must take a holiday," said Moore.

"I will think about it," replied Leonard, with a mental resolve that he would stick to London and literature, now that he had pushed a little bit of one foot into the groove of success.

CHAPTER XIV.—THE MEETING BY THE WATER.

HOW long, sometimes, to sketch or photograph a passing scene, which, if not caught at the moment, is lost to sight if not to memory. So thought Leonard Leigh, when, after all those years of absence, he found himself once more in the neighbourhood of Carisbrooke Castle. He was on his way to Fontainebleau Villa, having made a short walking tour from the vicarage through some of his favourite haunts. He had to cross a rustic bridge near the spot where the River Medina has its source, and where he had often fished in his boyhood. There, in the centre of the bridge, stood a girlish figure, leaning on the rail and gazing into the water. There was nothing remarkable in the straw hat or summer dress, but there was an elegance and lightness in the figure that seemed to lend a peculiar grace to a scene in itself almost perfect. The streams that would, at no great distance, form the river, rippled and sparkled through the meadows, as if coquetting with one another before uniting in the brook that flowed beneath the bridge; while golden king-cups and emerald sedges waved in and around the happy water. How peaceful was the scene—how fresh the air—how intensely blue the sky! Leonard stood in the lane beyond to gaze upon this lovely landscape. While he did so the figure moved and suddenly stood erect, with an open book before her. She remained a few seconds in this attitude, then glanced forth again, and uttered a little call.

Leonard moved forwards, wondering if this were some old acquaintance, and perceived that two dogs were disporting themselves in the grass, and running in and out of the little creeks that bordered the streamlets, lapping and barking with canine delight. He hastened towards the bridge just as a clear young voice exclaimed, "Now, dogs, we must go home," and reached it just as the speaker attained the opposite bank of the stream. He followed, paused a moment in the centre of the bridge to watch the dogs jump upon the young girl, and to hear her exclaim, "Down, Frou Frou! Get off, Douxdoux," and then strode forward and stood amongst them.

"Can it be Aveline?" he exclaimed.

The girl started, uttered a little cry, opened her arms, and would have rushed into his, had they been similarly extended; but he held out both hands instead, which, however, were not taken. She retreated and covered her face with her hands, as if for shame. Her slight form quivered with emotion, the book fell to the ground, and the sympathetic dogs looked up, whined, and laid their damp little paws on the clean pink dress.

"Aveline, let me look at you!" said Leonard, approaching and gently touching her.

A young face, radiant with the light of innocence, and flushed with the sudden delight of the unexpected meeting, turned upon him. He retreated a pace beneath the liquid lustre of the blue eyes. Could this be the child he had left? Could this opal of varying light be Aveline?

A sudden smile shot through the dewy eyes like

a sunbeam; the dimples he remembered parted the red lips and showed the "gates of pearl;" two little hands were clasped ecstatically, and a voice, rippling between laughter and tears, like the variable brook at his feet, spoke at last.

"Oh, Mr. Leonard! You have come back. I am glad, I am glad!"

"You knew me, Aveline? I should not have recognised you but for the dogs."

"No! I could never, never have forgotten you."

"Come and sit down upon this bank, and tell me everything."

"I must not; madame will be expecting us."

"I am going to Fontainebleau Cottage, and will make your excuses. We will walk together."

Nothing loth, Aveline seated herself by Leonard's side upon the grass beneath the bushes of gorse, fern, and hawthorn, while the waters whispered and the bullrushes nodded, as if understanding their sweet discourse.

"You have not written to me for very long, Aveline," Leonard began. "I know I have not deserved it, but I have had no time to answer letters of late."

"Monsieur thought I had better not," replied Aveline, ingenuously. "Lilywhite told Miss Quiz that I was always writing to you, and madame was annoyed, and I think they all considered me to be doing something out of my position."

"What is your position? I fail to understand."

"So do I," she laughed merrily. "But dear monsieur and madame are very, very kind, and I try to do everything they ask me. When I went to them first, it was to take care of the pets and help Lilywhite."

"But where is Loulou?" interrupted Leonard. A shadow crossed her sweet face as she replied in a subdued voice,

"She is dead. That was very sad, and we were in great affliction. It was soon after I went to them, and some one accused me of causing her death. I do not know even now who it was, but I was about to run away, when madame said the mystery was cleared, and I had nothing to do with it. Afterwards, there was much talk of another dog in Loulou's place. Poor madame was in despair, and all her friends brought puppies of every sort, but she fancied none of them. One day I heard monsieur say to her, 'Why not select Aveline?' She is not so much trouble to educate as would be a new dawg, and ever since I have had my meals in the dining-room."

"And your education?" asked Leonard, as a delicious little laugh followed this intelligence.

"Dear monsieur had not considered that, I think. But one day he caught me looking into one of his books, and he said, 'Would you like to read that book? It is Racine, a famous poet.' I said I should, and he began to teach me French. Now he likes me to read to him, and we have sweet lectures, and he explains to me the French and Latin authors, and we examine cyclopædias, and all sorts of books, until we are, as he says, 'masters of our subject.'"

"All this in French?"

"Yes. But I read English to madame. And sometimes monsieur reads while we work. She

has taught me French millinery, and I make all her caps and trim her bonnets. And sometimes she gives me a music lesson, and we all sing. French songs generally."

"Strange!" ejaculated Leonard, looking at the bright, gleeful face of the young girl. "I suppose you are considered an adopted daughter?"

"Oh, no! a companion, reader, child of the house, dogs' nurse, maid, gardener, but not a daughter! I am still my dear mamma's only child. Do you really think she is dead?"

Leonard was startled by the sudden change in the beaming face. The opal had turned to crystal. As if by a touch of frost, the colour left the cheeks, and the eyes filled with glittering tears that did not fall.

"I have been asking my uncle for all particulars," returned Leonard, gently. "It seems uncertain still, though I fear probable, that she may have wandered away from Parkhurst—and—and—fallen into the river."

"But how could they tell so long afterwards?" asked Aveline, shivering all over. "It was not long after I came to Fontainebleau Cottage that monsieur—oh, I shall never, never forget!—told me that it was thought my poor mother was dead. They had found her among the sandbeds in the river—at least they thought it was my dear mamma. But no one could have known but myself, and I did not see her. I thought I should have died, and but for monsieur, who never left me alone, I should have followed her to the kin^d, cold water. Can these cheerful little streams grow into so cruel a river?"

"Perhaps death was tenderer than life to her you have lost," reasoned Leonard. "The troubled spirit released from the body is free as air. She is now at rest."

"I try to think so. Yet I pray always for her return. Thank you, oh! thank you, for writing so kindly about her."

"I did not cease writing to different asylums until my uncle told me, by letter, this sad news."

"And then you wrote to me. I have your letter still, but I feared you had forgotten me, and was very, very unhappy. Still, I tried to believe in your promise to be my friend, because we are both orphans."

The tears that had seemed frozen into Aveline's eyes melted and rolled slowly down her cheeks.

Truly her young life had been bereft of hope when a corpse was found in the river, believed to be that of her hapless mother. Recognised it could scarcely be; but as all inquiries concerning her had been fruitless, and as no other female was known to have been missing, the authorities of the great House of Industry satisfied themselves that the body was that of the poor mad woman who had escaped from their charge. And so Aveline was indeed an orphan.

"Are M. and Madame d'Angère as original as ever?" asked Leonard, seeking to turn the current of her thoughts.

"Original!" she repeated, slowly. "You mean, unlike any one else? Yes. He is an angel of kindness; she also, so long as she is pleased."

When no one comes between us, we are as happy as the day; but the Dallimores—" she paused.

"Are they not satisfied yet?"

"I am afraid they do not like me. Lisle is the only one of the family who is my friend; and he! all the world bows before him except monsieur and me, and they say we alone can manage him."

"My cousin Lucy says he is the plague of the family."

"You will see."

A sparkle of mirth returned to the bright eyes, and a smile to the mouth, as Aveline rose hastily, suddenly remembering the flight of time.

"What will madame say? And what if Doux-doux should take cold!" she exclaimed, her face half quizzical, half frightened.

"Time and the cold on my shoulders," returned Leonard, gaily; and the young couple hastened up the lane, followed by the dogs.

Before they reached Fontainebleau Cottage they were met by M. d'Angère. He saw only Aveline at first.

"Where have you been, ma petite? Madame is in great embarrassment, for the dinner waits since half an hour, and Lilyvite, she—ma foi! Impossible! Léonard, mon ami!"

M. d'Angère threw wide his arms, and then and there embraced Leonard. Leonard had not time to withdraw, as he had done from Aveline. The Frenchman was too impulsive. Like madame, he was "embarrassed," and did not, as he ought to have done, hug the portly, kindly man. The dogs came to the rescue, leaping and barking at the friendly greeting, while Aveline stood apart, undecided whether to laugh or cry, yet feeling that she and Leonard were scarcely orphans, with so fatherly a friend.

"Hein! but thou art handsome, my friend Léonard! Only too tall. What think you, ma petite? Stay you. I go to surprise madame. Hide you both behind the hedge. There she is in the porch. We come, ma mie, we come."

M. d'Angère hurried forward, while the others, obedient to orders, walked under shadow of the high privet-hedge. The dogs darted on to greet their mistress, who stood elegantly attired, shading her eyes with her much-beringed hand:

"Where is Aveline? She must dine alone or with Lilywhite if she keep the dinner waiting. You spoil her, mon Alphonse, as Sister Dallimore assures me."

"Not so, my friend. Behold how she has been delayed!"

He threw open the gate, beckoned to Leonard, and impelled him forward into the gravelled path.

"It is all my fault, Aunt Amicia," cried Leonard, while Madame d'Angère, startled by the appearance of a stranger, began at once to arrange her skirts.

"Ha! ha! She recognises him not! See, ma petite!" laughed monsieur, while Aveline peeped round the hedge.

"Excuse me! Pray introduce me, Alphonse."

"Mr. Léonard Leigh! Madame d'Angère," said monsieur.

She fluttered up to Leonard, and repaid her husband for his little ruse by her pleasure at the meeting.

"Dinner waits. It is served. No time to arrange your toilette," she said, when the excitement was over. "Come, mon ami. Follow us, Leonard and Aveline."

M. d'Angère pressed forward, offered his arm, threw off his hat in the hall. The others did the same.

"You will take my arm, Aveline?" murmured Leonard; and the quartette went down the narrow staircase, followed by the dogs. "Only Loulou missing," he thought, as he remembered how Quiz had spread out and held up her skirts on a former occasion, in imitation of her aunt.

He looked down upon Aveline. Her face was flushed, and had a startled, half-frightened expression. He learnt, afterwards, that it was her duty to prepare the dessert and complete certain little elegancies connected with the dinner arrangement, which she had forgotten in her sweet converse with him. Her neglect would give Lilywhite an advantage over her. He also discovered that when she left the Blue School it was to wait, not only on monsieur and madame, but on Lilywhite, and the latter was by far the most exacting of the three. Indeed, as Aveline rose in position and favour, Lilywhite grew more and more tyrannical, and Aveline yielded, anxious to keep the peace.

As Leonard sat opposite to her, he could but think that he had never seen any one so fair.

"Her face is a poem—a song without words," he thought, as he watched its expression vary from moment to moment.

She was quite at home. There was neither servility nor presumption in her natural manner, nor effort in her naïve conversation. Yet she waited when waiting was necessary; attended to every want of her benefactors; prepared the little condiments for the dogs, and appeared, what she really was, the child of the house. Yet Leonard felt instinctively that something of slavery lay beneath the apparent freedom. But we are all slaves, he thought, either of custom or circumstances. He was certainly one himself.

When the dinner was over she remained below stairs awhile, and he went to the drawing-room with his host and hostess. They spoke of her, and said they thought she would have died of grief when she heard of her mother's fate.

"But my Amicia consoled her," put in monsieur, "and she is now our sunbeam. The brightest creature and the most spirituelle the world possesses,"—here a perceptible shade fell over madame's countenance, and he added, with a bow to her—"except my Amicia, who is the pearl of pearls—le bijou des bijoux."

Madame returned the bow with a gracious smile, and peace reigned, for she soon fell asleep.

SOUTHAMPTON.

THIRTY-SIX years have passed since the British Association for the Advancement of Science held their annual meeting at Southampton. Members who were present on that occasion will perceive many changes and improvements in the appearance of the town and port; especially around the suburbs, which have materially added to the municipal boundaries of the borough, and doubled the population since 1846.

At that date the computed census of the stationary inhabitants was under 35,000, now it is estimated at 70,000, irrespective of the growing suburban centres of population at Freemantle, Shirley, Woolston, and the surrounding districts, which bring up the total to upwards of 100,000. This augmentation is much in excess of the natural increase within the space of a generation, and chiefly arises from the influx of strangers, who have taken up their abode from motives of business, economy, or health.

In order to provide house and business accommodation for the increasing population, building has proceeded briskly from year to year, extending the streets and rows of roadside villas for several miles beyond the ancient borough limits. As the latter were necessarily confined to the narrow peninsula at the confluence of the Rivers Itchen and Test, they are surrounded by water on the east, south, and west, hence the principal extensions of the town have been made in a northern direction.

About the time above mentioned, at the upper end of Above-Bar Street, named after the ancient Bar Gate, built five centuries ago, a spectator, looking to the north, could see little else than cabbage plots, marsh lands, and forests. Now the vista opens upon charming public parks, flourishing with flowers, environed by elegant mansions and villas, and extending along the road to the famous avenue of elms, where new towns, Bevis Town and Fitzhugh, have been built on either side of smaller dwellings, but well inhabited, and to the eastward Portswood and St. Denys. In a north-west direction the suburbs of Freemantle and Shirley, also built upon private domains, likewise show well-built villas and streets where recently cattle grazed and crops were raised.

Returning to the old town, and sauntering south of the Bar Gate, the visitor will see much that is improved in the shops, although there is not much that may be called substantial or elegant in street architecture, except the Provincial Bank of England. The shop fronts are mostly new surface facings to old buildings at the back. Another exception to this mode of restoring the decayed dwellings of the High Street, is the edifice of the Hartley Institute, the headquarters of the British Association. In the vestibule of the building the members will see an inscription stating that Mr. H. R. Hartley, the founder of the institution, bequeathed property, valued at a hundred thousand

pounds, for the benefit of art and science. Out of that a sum of forty thousand pounds was consumed by legal expenses, more money went to the testator's relatives, so that the legacy dwindled down to forty-two thousand pounds.

The bequest of Henry Robinson Hartley, dated 1859, was made "to promote the study and advancement of the sciences of natural history, astronomy, antiquities, and classical and Oriental literature, and the fine arts in the town of Southampton." In consequence, however, of its heavy reduction, this comprehensive scheme of the testator could not be carried out. The building cost upwards of £20,000, so that there was not much more than a similar amount remaining for the endowment out of which to pay the moderate salaries of the officials and masters. Nevertheless, the executors, comprising the mayor and corporation, and three responsible trustees, have acted judiciously and economically, from time to time, as the Hartley Council during the past twenty years, since it was opened by the late Viscount Palmerston, and at the present time it is a modestly thriving institution. The building contains a lecture-hall capable of seating a thousand persons; a reading-room of spacious dimensions, containing a library of 20,000 volumes, many of the books being works of rarity; a museum; chemical, physical, and physiological laboratories, well supplied with apparatus and models; a gallery for the exhibition and study of works of art; and a series of class-rooms for both day and evening classes of an advanced description.

Southampton cannot yet boast of an edifice for a Town Hall to compare with the Hartley building, but nearly opposite, in the High Street, is the Audit Office,* which has been recently renovated for the better accommodation of the Municipal Council and the public officers. It contains a handsomely decorated council chamber, in which are many valuable paintings, ancient relics, and insignia of civic office. But the most interesting public records are numerous original and ancient charters granted to the borough in olden times by kings and princes, that have accumulated through the many centuries during which the town has had a corporate existence. These muniments extend over a period of some seven centuries, and form a portion of our national history, as they not only record the growth, decadence, and revival of the town and port in its southern commerce, but the connection between England and the Continent in troublous times. The earliest record is dated

* Old Leland, in his "Itinerary," says, "There ys a fair house buildi yn the middle of this High (anciently called English) Street, for accomptes to be made yn." Hence the name, Audit Office. For the antiquities of the town the best book is Brannon's "Picture of Southampton." In 1855 the British Archaeological Association visited the town, and under the guidance of Mr. Brannon inspected the interesting old places, of which an account was given in the Journal of the Association of that year. As there was English Street, there was also French Street, where Southampton's most noted son, Isaac Watts, was born.

1050, and they range from that time down to Queen Elizabeth's reign and Charles II. Judging from the extracts which have been published from time to time in the local press, they appear to have an intrinsic archaeological value, but they have not been till recently, nor yet sufficiently, dug out of their waste-paper condition in the neglected muniment-room of the corporation.

Until within the last few years the properly paved parts of the town were almost restricted to the High Street and the principal side streets branching from it. If a pedestrian extended his walk beyond these in the winter he had to wade through a Slough of Despond on the low lands, and in the summer, on the higher ground, grind his soles on the gravel which constitutes the raised land of the peninsula. To lay these outlying footpaths with flagstones was out of the question in a country where no stones exist harder or bigger than a "loomp o' chalk," and the cost of Caithness flags was beyond the economical corporation expenditures. Bricks were tried of local manufacture, but the best were bad, while the common kind are so friable under the influences of sun and rain, that the walls exposed to the south and west are protected by slates brought from Wales. Fortunately a blue brick, made in one of the pottery counties, hard and heavy, has been tried and found to suit admirably, both in cost and durability, and the ways are now paths of pleasure.

Besides the improvement of the streets for foot-passengers, the highways through the borough and suburbs are now intersected by tramways, with roomy cars travelling at frequent intervals, starting from the London terminus to Portwood in a north-east direction, and Shirley to the north-west, each about three miles distance. As yet the South-Western Company have held a monopoly of the railway traffic, since its introduction into the town upwards of forty years ago. At first the traffic was limited, and heavy merchandise was conveyed to the port by sea. In time, however, the conveyance of goods from the centres of English manufacture to the shipping for export increased to that extent that there became an urgent demand for a second independent line of railway between Southampton and the Midland Counties. Several attempts to establish a company for this purpose, and obtain an Act of Parliament, were frustrated, chiefly through the opposition of the South-Western Company and the difficulty of raising the preliminary capital.

These obstacles have been at length overcome by the unanimous action of the leading inhabitants in securing a bill for the construction of a line from Southampton to Newbury, in connection with the Great Western Company's system, and other railways opening up direct communication with the Midland and Northern manufacturing and coal districts. The first step in this direction was the opening of a new branch railway from Didcot Junction to Newbury in April this year, by an independent company in accord with the Great Western Company, a distance of seventeen miles. From this station the projected line to Southampton proceeds almost due south by way of Whitechurch and Winchester, adding thirty-five miles

to the new railway route. But the chief improvement and cost to be incurred will be when the line enters Southampton. This will be across the present West-end Station into the tidal water and along the western shore to the Royal Pier, where the terminus will be erected at a separate jetty. However advantageous it will be for the prosperity of the town and port when completed, these works will detract from the amenities of the present marine promenade along the shore.

Notwithstanding the alleged disadvantages of the South-Western monopoly, the ever-increasing passenger and goods traffic on that line led mainly to the construction of the docks, for the accommodation of ocean mail steamers, which has become the most important feature in the trade and navigation of the port. The first to establish their headquarters here was the Peninsular and Oriental Company, who dispatched their passengers and cargoes by the railway to their steamers, snugly berthed alongside the dock quays, from whence they started punctually every week to the farthest confines of the globe in India, China, Japan, and Australia. But rival lines started up for these foreign parts from London, which caused the directors to remove their headquarters back to the metropolis, where they began to load and unload their cargoes in 1874. At the same time Southampton was made a port of call on the outward and homeward voyages, where the passengers and mail-bags were embarked and disembarked. This limited commerce ceased in October, 1881, when the entire P. and O. relations with the port were withdrawn.

This has been felt by the community as a serious check upon their commercial progress, and there were apprehensions that the Royal Mail Company's steamers trading to the Cape might leave also, in consequence of discharging their inward cargoes at London. But this has not taken place, while the mail steamers from the West Indies have improved in their traffic, so that a cargo of coffee, consisting of 24,000 packages, has been landed, passed the Customs, and dispatched from the docks in four days to London, filling 228 waggons.

Besides these companies making Southampton their port of arrival and departure, there are several foreign ocean steamers making it a port of call. Among these are the vessels of the North German Lloyd Company, New York Line; the Netherlands Company, Batavia Line; the Rotterdam Lloyd, Batavia Line; the Rotterdam and Southampton Line; and the Liverpool, Brazil, and River Plate Steamship Company. The coasting trade companies comprise the Clyde Shipping Company; the Cork Steamship Company; the British and Irish Company; the Liverpool, London, Falmouth, Plymouth, and Southampton Line; and the South-Western Company's steamers which trade with the Channel Islands and several French ports. Lastly, there is an excellent fleet of passenger steamers plying between the Royal Pier, Portsmouth, and the Isle of Wight. The gross tonnage of shipping into the docks in 1881 amounted to 2,124,509 measurement tons, whilst in 1875 it was 1,388,740. During the former year the total amount of exports was £8,229,850.

As a yachting station on the southern coast, no other has made a more rapid advance in popularity than Southampton has within the last ten years. There are few more comfortable or sheltered anchorages than Southampton Water. The River Test is well buoyed, and the yacht anchorage is very plainly marked off. Fresh water is cheap, while provisions and other stores for a voyage up the Mediterranean or round the world, if required, may be obtained easily and cheaply from the numerous purveyors in the town. Since the establishment of the Royal Southampton Yacht Club in January, 1875, the port has been far more extensively patronised by yachtsmen, and seems each year to be growing in popularity. There is another, named the Royal Southern Yacht Club, with the Queen as patroness, which was established many years ago, and built a spacious structure for a club-house, facing the Royal Pier; but the members were not able to maintain it in proper style, so it was disposed of, and they now have their quarters in a modest building in the High Street. An older than either of these clubs exists, called the West Quay Amateur Regatta Club, established and conducted by the tradespeople, who are more or less interested in yacht-sailing and boat-rowing. These three clubs have each an annual regatta, at which liberal prizes are given to the successful competitors. On the occasion of the principal regatta the mosquito fleet of yachts skimming the spacious sheltered waters in view of the Isle of Wight presents an animated scene on a fine day. These, together with the steam yachts at anchor, or not in the races, we have counted to between ninety and a hundred.

What renders Southampton Harbour specially advantageous to all classes of vessels, from the great ocean steamers down to small sailing-yachts, is the character of its tidal phenomena, which are thus explained in "Adam's Almanack," a comprehensive and useful local publication:

"At the Needles, Isle of Wight, the west stream makes about ten o'clock, the east or flood making at 3.40; the velocity of both streams, over the bridge, and in the south channel, varying from three to four knots; between Hurst Point and the Island, five and a half knots; and at the south of the bridge, two knots. In the Solent, the east or flood stream makes at four o'clock, and at the Brambles half an hour later.

At Spithead the west stream makes at nine o'clock, two hours and a quarter before high water in the harbour, and runs nearly five hours N.W. by N.; the east stream makes at two o'clock, two hours and a half after high water in the harbour, and runs nearly seven hours S.E. by S. In Portsmouth Harbour, the tidal stream continues flowing for nearly seven hours; there is a narrow stream which continues running in for fifteen to twenty minutes after high water in the dockyard.

The port of Southampton is favourably situated as regards the tides, there being a double high water twice in every twenty-four hours, the tide remaining nearly stationary for two hours, thus giving

ample time for docking or undocking vessels of the largest carrying capacity without risk. This phenomenon is the result of the set of tide at Spithead, as given above, for so long as the current runs strongly to the westward the water is backed up at Southampton; and on the current making to the eastward the water rapidly falls. After low water the tide rises steadily for seven hours; it is then the first high water proper. It now ebbs for an hour, falling some eight or nine inches, and, again rising for an hour and a quarter, reaches, and, in frequent cases, exceeds its former level, producing the second high water, which remains stationary about two hours."

From the foregoing it will be seen that the tidal flow of Southampton Water is one of peculiar interest; and the way in which it occurs over a placid landlocked expanse, at high tides gives this the appearance of a picturesque lake, especially the upper reach west of the town. But that which occurs under normal conditions is grandly augmented at the equinoxes, when the tides rise to overflowing. Then, after the lapse of two hours, the ebb rushes rapidly, so that the noble lake is reduced to a narrow channel with mud-banks for its boundary. This is the great drawback to the town becoming a watering-place, not having a sandy beach to invite summer bathers. There is a plunge bath on the western shore, but it is a poor enclosed affair, and there is not a bathing-machine to be seen. On the eastern shore there are steam ferry-bridges for passengers and vehicles across the Itchen to Woolston and the Netley Road, where a shipbuilding yard gives employment to many hundred workmen.

There are few, if any, watering-places that excel this seaport for the varied routes of travel by water or land; and certainly, for short steamboat trips, none more economical. The excursion steamers are fitted with spacious saloons, and cushioned seats on the roofs for the passengers to view the scenery. To Southsea is the favourite trip, a distance of forty miles there and back for one shilling. Similar fares are charged for excursions to Ryde, Cowes, Alum Bay, and the Needles. There are also longer excursions to Bournemouth, Swanage, and round the Isle of Wight for three shillings and sixpence. If the day is fine and the sea tolerably smooth, the Island trip is delightful, the steamers keeping close in-shore all the way, so that Sandown, Ventnor, Black Gang Chine, and other noted places, may be seen from the deck, and the vessel is steered round the Needles.

To mention the numerous places in the district easily reached by road or railway, to which excursionists resort during the season, is beyond the limits of our space; but visitors should not fail to see the New Forest, the ruins of Netley Abbey, and the great military hospital at Netley. This is one of the places marked for members of the British Association; other "Excursions" being to Brading, Alum Bay, and places in the Isle of Wight, and taking wider range, Stonehenge.

SAMUEL MOSSMAN.

DR. C. WM. SIEMENS, F.R.S.,
PRESIDENT OF THE BRITISH ASSOCIATION.



C. W. Siemens

THE succession of Dr. Siemens to Sir John Lubbock in the presidential chair well illustrates the wide range of subjects touched by the British Association for the Advancement of Science. In Lubbock's election to the presidency there was not only a tribute to his personal and scientific claims for the honour, but there was recognition of the importance of that domain of knowledge with which his name had been mainly associated. The studies of certain departments of natural history, and of the early records of the earth and of man—studies in which Sir John Lubbock's name among English authors was second only to that of Charles Darwin—made his presidency a suitable one at so marked a meeting as the York Jubilee. As Darwin's age and health precluded his appearance, the office was worthily

held by one who was a zealous worker in the same field, and a favourite pupil of the greatest of then living naturalists.

In various years similar recognition of special departments of science has been made by the election of men considered specially distinguished or representative. Thus geology has been represented by Sedgwick and Buckland, Murchison and Lyell, Phillips and Ramsay. Astronomy has had illustrious representatives in Brisbane and Rosse, Herschel and Airy. Physics and the higher mathematics have given Lloyd and Peacock, Joule and Whewell, Stokes and Spottiswoode. And so with other departments with which have been connected the names of distinguished presidents, Brewster and Owen, Huxley and Tyndall, Hooker and Carpenter, with the others too many to name, and

some of them of no less renown, who form the grand roll of the presidents of the republic and parliament of science.

Nor should we omit reference to those who, without special distinction in original research in any of the Sections, have, by their influence and character, done much for the advancement of science, a roll headed by the Prince Consort, and bearing the honoured names of Fitzwilliam and Buccleugh, Northampton and Argyll, Inglis and Harrowby. Last, but not least, we have had men of science in its important relations with art and industry, the chiefs of the new epoch or "age of the engineers," Fairbairn and Armstrong, and Hawkshaw and Thomson; a worthy successor of such men now taking the presidency in the person of Charles William Siemens.

The name points to foreign extraction, and Dr. Siemens was born at Lenthe, in Hanover, on April 4, 1823. He received his education at the Gymnasium of Lubeck, the Art School of Magdeburg, and the University of Göttingen. In what are called classical studies he was but slenderly instructed, his school course having been irregular, and too soon cut short. This he has himself told us, and confessed that he acquired little more of Greek than to use the letters of its alphabet in mathematical formulæ, and on a push to puzzle out some of those Greek names which are given to scientific instruments. His tastes and his prospects lay in another direction, and in Germany there are advantages for art and science training such as we have only of late years in England begun to understand and to adopt. George Canning would have been amazed to see science classes and workshops at Eton, and never dreamed of mechanics, physics, or chemistry in connection with the "U-niversity of Göttingen." But it was here, under such professors as Wöhler and Himly, that young Siemens obtained his education in these branches of knowledge which he has since turned to so varied and important practical uses. But although of foreign birth and education, he came so early in life to this country, and has been so long familiar to us as a leader in the science and the industrial arts of England, that no one now thinks of him as having ever been an alien. He has lived among us for nearly forty years, permanently since 1844; and in 1859 he became a naturalised subject of Queen Victoria. He is more an Englishman than ever Handel was, or the first Herschel, or other illustrious Germans who have found in England their home or fortune or fame. We do not, therefore, say that Dr. Siemens is the first foreigner that has held the presidency of the British Association, but rather that he is the first scientific man of foreign birth who has obtained that honour.

Of the first appearance of young Siemens in this country, and the beginning of his career, he has himself given a most interesting narrative. It was in an address delivered, in October 1881, in Birmingham, at the Midland Institute, of which he was that year the president. It is now exactly forty years since, in 1842, George Elkington, utilising the scientific discoveries of Davy, Faraday, and Jacobi, established the process of electro-

plating. This was one of the first, if not the first, of the practical applications of electricity to industrial art and the purposes of daily life; that form of energy having before been merely a matter of wonder and amusement in the laboratories and lecture theatres of philosophers. The rumour of Elkington's success soon spread abroad, and hence arose that personal incident, the narrative of which was heard with deepest interest, and probably not without good moral influence, in the very town where the incident occurred.

"In March, 1843," said Dr. Siemens, at Birmingham in 1881, "I presented myself before Mr. Elkington with an improvement on his processes, which he adopted, and in so doing gave me my first start in practical life."

When the electrotype process first became known it excited a very general interest, and although I was only a young student of Göttingen under twenty years of age, who had just entered upon his practical career with a mechanical engineer, I joined my brother Werner Siemens, then a young lieutenant of artillery in the Prussian service, in his endeavours to accomplish electro gilding, the first impulse in this direction having been given by Professor C. Himly, then of Göttingen. After attaining some promising results, a spirit of enterprise came over me so strong, that I tore myself away from the narrow circumstances surrounding me, and landed at the East End of London with only a few pounds in my pocket and without friends, but with an ardent confidence of ultimate success within my breast.

I expected to find some office in which inventions were examined into, and rewarded if found meritorious, but no one could direct me to such a place. In walking along Finsbury Pavement I saw written up in large letters "So and so" (I forget the name), "Undertaker," and the thought struck me that this must be the place I was in quest of; at any rate, I thought that a person advertising himself as an "undertaker" would not refuse to look into my invention with a view of obtaining for me the sought-for recognition or reward. On entering the place I soon convinced myself, however, that I came decidedly too soon for the kind of enterprise here contemplated, and finding myself confronted with the proprietor of the establishment, I covered my retreat by what he must have thought a very lame excuse. By dint of perseverance I found my way to the patent office of Messrs. Poole and Carpmal, who received me kindly and provided me with a letter of introduction to Mr. Elkington. Armed with this letter, I proceeded to Birmingham to plead my cause before your townsman.

In looking back to that time, I wonder at the patience with which Mr. Elkington listened to what I had to say, being very young, and scarcely able to find English words to convey my meaning. After showing me what he was doing already in the way of electro plating, Mr. Elkington sent me back to London in order to read some patents of his own, asking me to return if, after perusal, I still thought I could teach him anything. To my great disappointment I found that the chemical solutions I had been using were actually mentioned in one of his patents, although in a manner that would hardly have sufficed to enable a third person to obtain practical results.

On my return to Birmingham I frankly stated what I had found, and with this frankness I evidently gained the favour of another townsman of yours, Mr. Josiah Mason, who had just joined Mr. Elkington in business, and whose name as Sir Josiah Mason will ever be remembered for his munificent endowment for education. It was agreed that I should not be judged by the novelty of my invention, but by the results which I promised, namely, of being able to deposit with a smooth surface 30dwt. of silver upon a dish-cover, the crystalline structure of the deposit having theretofore been a source of difficulty. In this I succeeded, and I was able to return to my native country and my mechanical engineering a comparative Cæsus.

But it was not for long, as in the following year I again landed in the Thames with another invention, worked out

also with my brother, namely, the Chronometric Governor, which, though less successful, commercially speaking, than the first, obtained for me the advantage of bringing me into contact with the engineering world, and of fixing me permanently in this country. This invention was in course of time applied by Sir George Airy, the then Astronomer Royal, for regulating the motion of his great transit and touch recording instrument at the Royal Observatory, where it still continues to be employed.

Another early subject of mine, the anastatic printing process, found favour with Faraday, "the great and the good," who made it the subject of a Friday evening lecture at the Royal Institution. These two circumstances combined obtained for me an entry into scientific circles, and helped to sustain me in difficulty until, by dint of a certain determination to win, I was able to advance step by step up to this place of honour situated within a gunshot of the scene of my earliest success in life, but separated from it by the time of a generation. But notwithstanding the lapse of time, my heart still beats quick each time I come back to the scene of this, the determining incident of my life.

In the same address at the Midland Institute, Dr. Siemens delivered his views as to education, and it will save recurring to the subject if we state them briefly at this stage of our article. The subject of the address being "Science and Industry," it is of course of what is understood as technical education that he chiefly discoursed. But there was no narrowness of tone in the speaker's statements, which are of great value as the result of the thoughts of a man of so large experience and observation.

It is gratifying to state at the outset that Dr. Siemens is opposed to the too sharp division that is threatened in our English public schools, into Classic Side and Modern Side. The old system of training only through ancient languages was at length found to be unsuited for the wider requirements of modern life, but the attempt wholly to dispense with such training is equally to be condemned. Education is incomplete which does not join literary with scientific training. The man of the most mechanical calling, or what are deemed the most practical pursuits in life, will always be the better for having had early literary culture. In schools there is no need to separate the classical from the technical training, a certain time given to the latter qualifying the mind the better for book work; just as in after life variety of occupation or of study yields recreative and healthful mental exercise. No school ought to be without its lecture-room and museum, its laboratory and workshop, where at least the principles or elements of science can be taught, and the handiness and ingenuity of the pupils be educated or drawn out. At the universities and at colleges, laboratories and museums and lecture-halls of a higher range should meet the wants of those who wish to cultivate scientific tastes. With the vast increase of employments and callings in our day, beyond the conventional "professions" of former times, education must have a wider range, but the special training ought not to absorb the largest share of time until after the ordinary school education has ended. Then comes the apprenticeship, or the technical college, or the school of art, according to the occupation in view—engineer, architect, merchant, manufacturer, or whatever the business or craft may be.

The same objectionable division of education is

found abroad, in the separation of the *Gymnasium* or grammar school, from the *real Schule*, or technical school. The training ought to be combined and simultaneous, and the preparation for special work in life be after the school years.

On the whole Dr. Siemens agrees with Lord Brougham's pithy counsel to the young, "Try to know something about everything, and everything about something." He agrees with him also as to the unwisdom of the familiar proverb, "A little knowledge is a dangerous thing," some light being always better than no light or knowledge. The influence of broad-minded as well as specially trained teachers is at present the great desideratum in national education. As a normal school for science-teachers the capacities of the South Kensington centre are recognised by Dr. Siemens, and he has the liberality to say that literary subjects ought to be added to the curriculum of that art and science national training school.

There is one noteworthy difference between this country and the Continent by which technical education should here be regulated. The proportion of youths required for public official duties is greatly larger abroad than with us. A whole army of officials must be prepared for railways, factories, and other departments which are under Government direction to a greater extent than in England, where most great industrial undertakings are happily due to private or associated capital and enterprise. The supply of competent agents for these objects calls less for mere routine training, or knowledge tested only by competitive examination, and leaves a larger scope for independence and variety of qualification, than where most services are Governmental and not spontaneous and self-supporting, as in England.

But we must hasten to note briefly some of the more conspicuous fields of research and work to which Dr. Siemens has turned to good account his own training and efforts. It is not necessary to keep to chronological order in this summary, but rather to point out the chief subjects to which he has devoted attention. Nor can we go into details such as would be more in place in journals connected with special departments—engineering, metallurgic, electrical, or others—but merely to refer to such matters as have most interest for the general public.

The one leading idea in all the practical works of Dr. Siemens is the best method of applying and economising the forces of nature for the service of man. Thus his attention was early turned to the dynamical theory of heat, as revealed by the researches of Carnot, Joule, Grove, and other men of science. The motor power of caloric as used in the steam-engine he thought might be made to produce greater mechanical effect with less waste of energy. In the best engines a comparatively small amount of the heat is directly available, much of the force being lost in the escape of the heated products of combustion, and in heating the water in the condenser. This led to his production of what he called a "Regenerator Engine," the principle of which is to recover as much as possible of the caloric usually lost, and also to save waste of fuel by using vapour heated to a high

temperature under pressure. Great improvement has taken place in this direction since the time of Watt, especially in marine engines, but the practical difficulties attending the use of superheated steam have prevented the application of the regenerating principle to the extent anticipated by Dr. Siemens. He has more successfully applied the principle in his Regenerative Gas Furnace, carried out in connection with his brother Frederick Siemens, an invention of vast importance, especially in metallurgy. By this arrangement of the combustion of gas-fuel, great economy has been attained, as well as such a degree of heat-power as to achieve processes not to be attempted in ordinary furnaces. The economy is proved by the fact that a ton of iron can be heated to the welding-point with seven hundredweight of coal, and a ton of steel melted with twelve hundredweight; whilst from two to three tons of coke were formerly employed to produce the same effect.

The most important commercial bearing of this invention has been the production of steel by what is known as "the open-hearth process." This was stated in an inaugural address delivered by Dr. Siemens, in 1877, as President of the Iron and Steel Institute. In this address, the whole of which is worthy of careful study, due credit is given to Huntsman, Bessemer, Whitworth, Krupp, and other labourers in the same department of metallurgy; and his own process, known as "the Siemens-Martin process," is thus referred to:—

When, in 1856, I first seriously gave my attention, in conjunction with my brother (Frederick Siemens), to the construction of a regenerative gas furnace, I perceived that this furnace would be admirably adapted to the production of steel upon the open hearth, and I remember proposing it for such a purpose to Mr. Abraham Darby, of Ebbw Vale, in 1861. Ever since that time I have been engaged in the realisation of this idea, which has been retarded, however, by those untoward circumstances which ever intervene between a mere conception and its practical realisation, and it was not until after I had established experimental steel works at Birmingham, that I was enabled to combat in detail the various difficulties which at one time looked well-nigh insuperable.

Whilst thus engaged, Messrs. Pierre and Emile Martin, of Sireuil, who had obtained licences for furnaces to melt steel both in pots and on the open hearth, succeeded, after a short period of experimenting, in introducing into the market open-hearth steel of excellent quality.

Messrs. Martin gave their attention to the production of steel by the dissolution of wrought iron and steel scrap in a bath of pig metal, whilst my own efforts were more especially directed to the production of steel by the use of pig metal and iron ores, either in the raw state, or in a more or less reduced condition, which latter process is the one mostly employed in this country.

One of the advantages that may be claimed for the open-hearth process consists in its not being dependent upon a limited time for its results. The heat of the furnace is such that the fluid bath of metal, after being reduced to the lowest point of carburisation, may be maintained in that condition for any reasonable length of time, during which samples can be taken and tested, and additions either of pig metal, of wrought scrap, spongy metal, or ore, may be made to it so as to adjust the metal to the desired temper. The requisite proportion of spiegeleisen, or ferro-manganese, is then added in the solid condition, and the result is a bath of metal, the precise chemical condition of which is known, and which has the advantage, if properly managed, of being what is technically called "dead melted." This circumstance renders it applicable for certain purposes for which pot steel has hitherto been mostly employed.

The application of steel to artillery and other military purposes, first introduced by Krupp in the year of our Great Exhibition of 1851, has been since followed by its use in shipbuilding, and there are other uses possible. Improvements both in production and application are among the subjects which Dr. Siemens has helped to make known by his addresses, and by his experiments at the Sample Steel Works at Birmingham. These works were constructed partly with the view of experimenting on the direct production of steel and iron from the ore, by a rotatory furnace and other contrivances; and samples thus obtained were exhibited at the Paris Exhibition of 1867. At the present time there are various steel works of great extent, either under his direct supervision, or by others under his licence, and from these works a large proportion of the steel required in commerce at home and abroad is now annually produced. Some of the Siemens furnaces will hold a charge of twelve tons, and will produce twenty to thirty tons of steel in twenty-four hours, steel of high quality and uniformity, such as is required for boilers and for machinery.

We have said that these practical results arose from consideration of the principle of using the motive power stored up by nature in the shape of fuel, the product of solar energy in ancient epochs of the earth. But, in point of fact, the supply of power to be obtained from the sun, not thus stored, but coming direct to us by solar radiation, is of amount immeasurably greater. This force is now expended in producing rain and wind and all the natural phenomena of season and climate and life, as well as in producing sunshine and the sensation of heat. That it may be more utilised for mechanical and motive power is a favourite notion of Dr. Siemens; and on the same principle he views with sympathy the proposals for utilising other natural forces which less thoughtful men treat as chimerical. He sees no absurdity, for instance, in the project for using the tides of the sea or the waters of Niagara for practical purposes. He said so in a remarkable lecture delivered in the City Hall of Glasgow, in 1878, "On the Utilisation of Heat and other Natural Forces."

It would not, he said, be necessary to seek on the other side of the Atlantic for an application of this mode of transmitting the natural force of falling water, as there is perhaps no country where this force abounds to a greater extent than on the west coast of Scotland, with its elevated lands and heavy rainfalls. You have already conducted the water of one of your high-level lochs to Glasgow, by means of a gigantic tube, and how much easier would it be to pass the water in its descent from elevated lands through turbines, and to transmit the vast amount of force that might thus be collected, by means of stout metallic conductors, to towns and villages for the supply of light and mechanical power!

Much might be said, also, regarding the utilisation of the irregular force of the wind, which represents an enormous aggregate of available energy capable of collection and distribution in countries where other sources of energy may be wanting.

A number of windmills, such as may be constantly seen working in Holland for the drainage of the land, might, for instance, be employed to raise water, by pumping to an elevated lake or reservoir, whence the power could be drawn off by means of hydraulic motors when required, and might be conducted electrically to centres of habitation.

The reference to electrical transmission of force

leads us to notice another field of research in which Dr. Siemens has been engaged in recent years. In all the great enterprises arising out of the application of electricity to practical uses, he has borne a conspicuous part. In telegraph engineering he early took a deep interest, and in conjunction with his brothers Werner and Carl Siemens, he established works, which have now a world-wide reputation, under the name of the firm, "Siemens Brothers." From this establishment have been sent the Indo-European, the North China, the Brazilian, and other lines in various parts of the world. But the greatest enterprise was laying the Direct United States Cable in 1874 and 1875. In laying this cable the famous steamer, the *Faraday*, was specially constructed according to the design of Dr. Siemens, in consultation with the late William Froude. Its peculiarity was having the stem and stern alike, so that by merely reversing the motion of the engine the ship could advance or recede without risk of hurting or twisting the cable by turning; and this power of turning was made independent of forward motion by the use of two screw propellers placed at a slight angle converging towards the stern. Bow and stern were thus convertible, and a rudder, if required, could be liberated at either end. All the other arrangements were of a masterly conception, whether for the paying-out of the cable or for possible emergencies. The work not being finished in the favourable weather of one season, the cable was buoyed, and the work completed the next season. A fault having been detected, another return to England was needed for procuring a piece of cable sufficient to repair the damage; and the line was finally opened on the 15th September, 1875. Since then his firm have successfully laid three more transatlantic cables, one for a French and two for an American company.

The best methods of applying electricity to illumination is a question of present public interest, to the solution of which Dr. Siemens has contributed his part. As much remains to be settled before the new system of lighting supplants older methods to any great extent, we do not enter into details, but quote what will interest many, the opinion of Dr. Siemens as to position and prospect of gas and gas companies in face of the expected competition.

Who would venture to say that the electric light is not a practical illuminant destined to work as great a change as gas-lighting did before it, many years ago? But although I predict a great future for electric light as being the most brilliant, the cheapest, and the least objectionable from a sanitary point of view of all illuminants, I do not agree with those who consider that the days of gas must therefore be numbered. Gas companies have for many years enjoyed the sweets of their monopoly position, which position is, generally speaking, not productive of desire for change. The electric light has furnished for them the incentive to advance, and the effect of that incentive has told already, in improved street lighting by gas. But although gas may have to yield to the electric light the illumination of our lighthouses, halls, and even drawing-rooms, it will be in a position, I believe, to hold its own as a domestic illuminant, owing to its great convenience of usage, and to the facility with which it can be subdivided and regulated. The loss which it is likely to sustain in large appliances as an illuminant would be more than compensated

by its use as a heating agent, to which the attention of both the producer and the consumer has latterly been largely directed. The time is not far distant, I believe, when gaseous fuel will almost entirely take the place of solid fuel for heating, for obtaining motive power, and for the domestic grate; and if gas companies and corporations rightly understand their mission, they will take timely steps to supply, separately, heating gas at a greatly reduced cost, the demand for which would soon be tenfold the gas consumption of the present day. The economy and the comfort which would accrue to the inhabitants of large towns by such a change would be great indeed, and it would, amongst other things, effect a radical cure of that great bugbear of our winter existence, a smoky atmosphere.

With regard to the "smoke nuisance" abatement, and domestic economy and comfort in connection with fireplaces, Dr. Siemens has invented and recommended a combined gas and coke grate. The air required for combustion is heated in passing to the burners, so that the warmth usually wasted below the grate and up the chimney is as far as possible brought forward, and radiation of heat increased. He considers the open English grate, if thus adapted, better than the best stoves.

A novel and interesting application of electricity was brought before the British Association last year, in which Dr. Siemens proved by experiments that the electric light may be made a powerful adjunct to the resources of horticulture. With the precaution of absorbing by a screen of clear glass the invisible highly refrangible rays of the spectrum, which are found to injure vegetation, the plants exposed continuously to the electric light excelled in rapidity of growth and strength of substance those exposed to alternate sunlight and darkness. Even in regard to hothouse fruits the gardener may come to be independent of season and climate, and may be able to produce new varieties by this agency. The paper is printed in the British Association Reports of last year.

Want of space compels us to omit reference to other matters with which the name of Dr. Siemens has been associated. The mere list of papers and memoirs prepared by him for the journals of the Royal Society, the Institution of Civil Engineers, the Iron and Steel Institute, and other bodies, with lectures and addresses on various occasions, would form a large catalogue. His life has probably been too incessantly busy to have left time for larger authorship on any special subject, but a volume of these various articles, collected and re-edited, would be a valuable and acceptable contribution to the literature of science and industrial art.

It only remains to add that he has been elected to the presidency of several of the societies of which he is a member; that he has received numerous medals and prize-awards; that he is honorary member of many institutions at home and abroad, *ex. gr.*, the American Institute of Mining Engineers, the Royal Academy of Stockholm, and the Cambridge Philosophical Society; that he is an LL.D. of Glasgow, and Dublin; a D.C.L. of Oxford; an officer of the French Legion of Honour, and member of the Athenæum, Philosophical, and Royal Society Clubs. These, and such distinctions as receiving the Bessemer Medal, the Royal Albert Medal, and the gold medal of the Society

of Arts, are all the spontaneous tributes of fellow-workers in science and art. Except the Legion of Honour, the appointment as a *dignitário* of the Brazilian Order of the Rose is, as far as we are aware, the only national or Government honour

conferred upon him. Any similar recognition by our own Government would be universally regarded as a well-merited honour, and a just recompense for unusual services rendered to the advantage of our national wealth and reputation.

TIR FÉDÉRAL:

A VISIT TO THE SWISS SHOOTING MATCH.

THE 2nd of last August was a brilliantly fine day, and the heat in the railway carriages was most oppressive as the train slowly drew itself towards Fribourg, and presently entered its crowded station.

The crowd was a singular one; hundreds of Swiss riflemen were going to and returning home from the great "Tir Fédéral," which creates so great an enthusiasm each alternate year in Switzerland, and is so little known here. Perhaps some account of this national gathering may be interesting to Englishmen. It occurs at a season when many of our countrymen are taking their summer holiday amidst the Swiss Alps. It offers opportunities of mingling freely not only with the peasantry, but also with the less-known gentry of Switzerland, of seeing many curious sights, and of competing in an exciting shooting match for magnificent prizes. And yet few English officers and civilians, who take great interest in the Wimbledon gathering, know anything of this one.

The Fédéral shooting fête is of great antiquity, although the society, as it now exists, only came into being in the year 1824. During that year it was inaugurated as a Fédéral gathering at Aarau, and afterwards the fêtes were held at Bâle in 1827; Geneva, 1828; Fribourg, 1829; Soleur, 1840; Coire, 1842, and so on at different principal towns every two years, the last one preceding the Fribourg one of 1881 being held at Bâle in 1879. But four hundred years ago almost every village in Switzerland had its shooting matches, just as we in England have our cricket clubs. In the year 1447—scarcely three years after a long siege, and the battle of St. James's on the Sihl, during the celebration of the carnival—a reunion of the shooting clubs of the canton, in which fifteen hundred confederates shared, took place in the town of Zurich. Next, in 1452, at the ancient little village of Sursée, in the canton of Lucerne, the first grand shooting match was organised. The councillors and magistrates issued a general invitation, and the invitation was responded to not only by numbers of the Swiss, but by marksmen from many other countries. The weapon used was exclusively the crossbow. In 1453 and 1458 similar shooting matches also took place at Berne and Brèune, and about the same time at Strasbourg and Constance. An insult offered at Constance to the Swiss bowmen so roused the indignation of their fellow-townsmen of Lucerne, that the city council sent an appeal to all the con-

federates to obtain satisfaction, and, before they had even time to respond, the troops of Lucerne and Unterwalden, burning with indignation, invaded Thurgovie and seized upon Wemfelden, where the knight Berthold resided, cousin to one of the insulters of Constance; they levied a war contribution of five thousand florins, and then retired; so the fête of Constance proved a costly affair.

In 1462 Soleur called the cantons to a great shooting contest, and entertained all comers free of cost. After this great cantonal contest "Tirs" became common.

At the one held in 1485 at St. Gall arquebuses appeared for the first time in considerable numbers. The next remarkable gathering of this kind was held in 1504, at Zurich. The burgo-master and council issued an invitation to a shooting match with the crossbow and arquebus. This invitation was printed, and is the oldest known document which issued from the Zurich printing presses. A copy of it is still preserved. It was addressed not only to all Switzerland, but also to the towns of Vienna, Ofen, Lubeck, Maesbricht, Augsburg, etc., and even to the Roman king, the Palatine princes, and many other persons of note. Already the custom had been established of the council of the town where the match was held granting from the municipal funds sums of money for prizes, and Zurich on this occasion gave thirty-two prizes and seven bounties at the arquebus contest, and a like number at the crossbow match.

We find each shooter had to pay one and a half florins for his ticket, and for this he had a right to twenty-eight shots. The distance was about seven hundred feet, at three targets, whose diameter was five feet each. The first day the shooting was open for ten hours; on the succeeding ones for seven hours. It appears the Council of Zurich provided the visitors with bread, wine, cheese, fruit, and other eatables. Many tents arose on the ground, and a gay fair went on during the whole of the time.

The Switzers of those days do not seem to have been the wonderful shots we generally imagine, for the first prize of 110 florins was gained by a Tyrolese marksman from Innsbruck; and of the thirty-two others only seven were gained by natives. The majority of the prizes fell to the crossbow men of Southern Germany. The same fact held good in the arquebus contest which followed. The first rules were drawn up at this

shooting fête of Zurich, and continue to the present day. They run as follows.

At these reunions of shooting no one must present himself without his proper arms, his ammunition, his ticket, and that which is necessary to pay for it. Two shooters cannot make use of the same arquebus. It is equally unlawful to make use of weapons which are not admitted. Every shooter must let his weapon be examined by the chief of his section, and have it marked by the seal of the town or canton which gives the fête.

From 1504 to 1822 matches regularly took place in alternate towns. At Aarau, in 1822, the cantonal shooting match was to take place, but Schmid-Gugot, the president, proposed that instead of a Cantonal a Fédéral Society of Riflemen should be formed. The objects desired are shown by the following extract from the statutes:

"We desire thereby to create a close union of affection amongst the confederates, to add to the strength of our country by good fellowship and the increase of friendly feeling, and at the same time each one to contribute what he can afford for the encouragement of good shooting, which is so indispensable for the defence of our land."

In 1872 special membership ceased, and the competition was thrown open to all comers. Consequently we find in the contest of 1872, not only numerous successful competitors from each of the twenty-three Swiss cantons, but that Germany gained sixty-nine, France fifteen, Austria twenty-one, Italy seventeen, and England two prizes. In 1874 our country was not represented at all. In 1876 again two prizes fell to our share, and in 1879 one. This year, 1881, only a single English gentleman was present, though strangely enough there were two Chinese. We have not heard the final result of the match, but when we were there in the middle of the contest our fellow-countryman had already gained one cup. As a caution to any Englishman who may be disposed another year to visit the "Tir Fédéral," we must add our compatriot's rifle was stolen from the rack in the shooting stand during his absence.

Perhaps we may be permitted, having given a slight outline of the history of the "Tir Fédéral," to sketch it as we saw it last August in Fribourg. And first for the town. A queer old-fashioned one it is, with narrow streets and carved mediæval houses; it is encompassed by a fortified wall, formerly entered by five gates, of which only one remains. It was also protected by a moat. At one time Fribourg was a place of importance, for the manufacture of woollen goods was extensively carried on. The trade has left the place, and it has no industry, the population, which numbers 12,000, consisting of noblesse and poor people. At a short distance from the Bourgillon gate is a noble palace where the Jesuits in the day of their power reigned; but they are turned out now, and the building is used as a public school.

The little city is romantically situated, and nearly surrounded by the River Sarine, and there are pretty walks in the neighbourhood. The whole place was in holiday attire; flags, arches, patriotic mottoes everywhere. Even the old lin-

den-tree of Marat has the Fribourg standard waving above its venerable greenery.

Nothing about the town is more touching than the legend of this lime-tree. On the 22nd of June, 1476, the Swiss patriots, against overwhelming odds, fought the Battle of Marat. With a fever of excitement raging in Fribourg, the inhabitants mounted the ramparts, and watched during all the long hot day. Evening was falling, when a blood-covered soldier was seen flying towards the gate. Soon he was recognised as one of their own townsmen. He rushed into the square, and then, covered with wounds, exhausted by loss of blood and the strain of his long run, fell, muttering one word, "Victory!" In his helmet he wore a branch of lime—it was planted in memory of him on the spot where he had laid him down to die. It is a very old tree now, carefully held up by a solid timber framework, and under it gay soldiers of to-day sit and smoke.

A very pretty sight it is to see the different cantonal badges worn by the hundreds of shooters. Some have high-peaked hats with bunches of pampas grass waving like grey feathers; others cockades. The thousands of visitors and inhabitants all wear festive dresses, and are decorated with ribbons and little medals. For Fribourg to-day not only welcomes the rifle shooters of Switzerland, but also celebrates the 400th anniversary of its admission into the confederation. The only people who look ordinary are the policemen; fifteen of these march out of the council-house in new holland smocks and straw hats. Surely never were fifteen more peaceable creatures set to keep order amongst many hundreds of men who, rifles in hand, parade the streets; and surely it is to the credit of Switzerland that this handful of police had next to nothing to do, and were amply sufficient for the purpose assigned them!

The grand suspension bridge which crosses the vale of the Sarine, and connects Fribourg with the hills beyond, is 246 yards long, and is fifty-one yards above the bed of the river. In prospect of the immense traffic which must pass across it during the festival, the suspension ropes have been strengthened at a cost of 100,000 francs, though at the time of its opening in 1834 five large cannon, dragged by fifty horses, and accompanied by three hundred men, were marched across to try its strength. No strain, however, has ever caused the least depression, and on this evening the bridge presents a very gay spectacle.

At either end is a triumphal arch. On the top of the one near Fribourg an electric light is placed, which illuminates with a flood of intense brightness the valley below, the opposite hills, and the casine of the shooting grounds beyond. It lights up the noble figure of Helvetia, which crowns and completes the white marble arch at the opposite end of the bridge. The figure stands gracefully resting one hand on the shield by her side, and stretching the other out in welcome. The golden star on her forehead sparkles, as also does the motto beneath her feet, "Frères d'armes: Salut."

Next morning crowds of fresh marksmen come pouring into Fribourg, warm greetings are being given in the streets, pavements swept and watered,

new wreaths suspended overhead; and we are off through the square and under the shade of the lindens, across the bridge, and up the steep ascent to the Schönberg. This is on a hill of no great height, but far beyond rise the distant Alpine peaks, capped with snow. Many pretty costumes pass us; everything is bright and cheery in the lovely sunshine. We pass under another archway, and find ourselves in the nicely laid-out shooting grounds. The first building to which we come is the casine. It is a large, handsome place (the material used in all the erections is wood), decorated with banners. Inside it is very spacious, and capable of holding 3,500 persons. During the day it is used as an excellently arranged restaurant, at night for a concert-room. Here it is, when the fête is opened and closed, all the grand ceremonials are gone through, and the members of the Council of State and the President are good enough to pronounce patriotic speeches before they place the *Fédéral* flag upon the "Pavillon des Prix" or remove it. Reports of orations are given in the daily fête-paper, and are amusingly grand. This large hall is made elegant by very simple means. The supporting pillars are unbarked pine-trunks. The roof is also of shades of green, and round the walls are hung the shields of the twenty-two cantons, with the dates of their admission into the confederation, and behind the president's rostrum are blazoned, as common property, the names of their greatest patriots.

We next visit the pavilion of prizes. The show is splendid, as it ought to be, for the value represented is over 300,000 francs, or £12,000. The articles comprise watches, medals, cups, cases of spoons, fish knives and forks, salad spoons and bowls, tea and coffee services, purses. From Melbourne came a group of bronze emus. But the grandest of all was a magnificent cup of great height and beauty; on the rough ground from which the stem sprang stood exquisitely moulded figures of Tell and his boy. He, with his cross-bow in one hand and the apple transfixed by the arrow in the other, is holding it up as he speaks with a gesture of freedom and defiance. Upon the cup is the inscription, telling that it is a gift from "King William III of the Netherlands," that is, the Emperor of Germany. This cup goes with the first prize, and is kept in the canton of the winner for two years, that is till the next *Tir Fédéral*, when it is again shot for. We pass on now towards the shooting ranges. Before climbing the elevation on which they stand, we turn for a moment down a street of wooden booths and shows—"the street of the world." This is the fair of the fête. There are stalls for sweetmeats and ices, cheap jewellery, and numberless toy shooting booths; also shows with the usual dwarfs, fat women, and wild Indians. We gladly escape from the horrid din of cymbals and horns and make our way to the shooting stand.

The stand is 234 yards long, and is a convenient length for 130 targets, of which 110 are at a distance of 300 yards up the hill on the other side, and 20 at 450 yards. The difficulty of hitting these long-range targets is increased also by the rapid rise of the ground.

The building is a handsome wooden shed with a kind of tower in the centre; it is decorated its whole length with the different shields and flags of the cantons, and the legend is blazoned in enormous letters along it, "In aug das Ziel, In arm die kraft." The entrances at a few yards distance are on this side. The price of a ticket is, to admit to the whole of the four "bonnees cibles," or long targets (and including "une carte de banquet"), for the entire fête, 27 francs 50 centimes. Entrance by persons who are not season-ticket holders is 1 franc into the stand. A single shot is charged 25 cents, or 2½d.; a double one, 50 cents, or 5d. The points made are repaid after the twentieth is passed up to the number of 600 at the rate of 2½d. each, only on 600 points 200 must be gained at the long distance. The plan of the shooting last year at Fribourg was the same as that of Bâle two years ago. Two hundred points made on the revolving targets gain a little cup, and four hundred a large cup, but the marksman who wishes to gain both cups must make the last 200 points at the long range. The "cartoon," or plate of the target, is two feet in diameter; it is divided into three parts or circles of (1) 19.6 inches; (2) 11.8113 inches; (3) 5.9 inches: these count for one, two, or three points. At the long range the largest is 2 feet 11.4339 inches, and is subdivided into circles of (1) 2 feet 5.52 inches; (2) 15.7484 inches; (3) 7.492 inches, representing also one, two, or three points. The repayment money is not returned in cash, but in cups, a watch, or some other article of equivalent value. At former fêtes the king of the shooters was considered to be the man who during the whole week had made the highest number of points. But it is not so now. 20,000 francs, £833 6s. 4d., are reserved for the best "series" of 100 shots, and he who makes the largest number of these "series" is considered the best shot. Each marksman has the right to shoot ten series. Printed Tables of the different series, with distances and prizes, and miscellaneous rules of the competition, are posted and distributed.

An innovation was last year introduced in the old plan of the *Fédéral* match. It consists of shooting by sections. This plan has not as yet been admitted even into the shooting matches of the cantons and district clubs. Strict rules are enforced to keep order, and the prizes are given half in money, and the ten sections which have shot the best obtain in addition some silver laurel-leaves. Its object is to improve the *general* or lower class of shooting.

At the early hour we visited it the stand was in the shade, the morning thus being the most favourable time for the marksmen. By the rules of the "*Tir Fédéral*" each man may either stand or kneel to aim, but we noticed few preferred to remain erect. A shutter in front of each target fell for an instant after each shot—if white, a good point had been made; if black, the reverse.

It was as strange to see the rapid regularity of the falling and rising shutters along the whole line of targets as to hear the unceasing crack of the rifles.

The fête began on July 31st, and closed on

August 9th. On the 10th August the prizes were distributed. There was no day of rest and religious observance, such as might be expected in a land largely Protestant, and such as honourably marks our English military as well as civil life. French usages have long prevailed in Switzerland, to its dishonour. On Sundays the shooting began at 1 P.M., on the other days at 6 A.M. One hour's rest from twelve to one was allowed each day, and the shooting match closed each evening at half-past seven. A discharge of cannon daily opened and closed the proceedings. No person is allowed to enter the stand except he presents at the door a ticket numbered for that office. The doorkeeper inspects it; on it he finds the name, surname, profession, and residence of the marksman, and charges for it a franc, which franc is afterwards repaid when he enters for shooting at one of the four "good" targets. If the marksman neglects to tell exactly his address, he can claim no redress if he considers himself unfairly treated afterwards.

There are no supports or rests permitted to the rifles; each weapon is examined by one of the stewards and sealed before it is allowed to be used. The Swiss shooters are obliged to use the *Fédéral* ammunition, but foreign marksmen are at liberty to use their own arms and ammunition, the only regulation for these also being that no rests are allowable. The fête is governed by twenty-six rules, which can be obtained as soon as the fête is arranged and advertised. The Swiss, like all foreigners, are very fond of processions and the carrying of banners, and one hears a great deal about the fetching of the *Fédéral* flag by the President and Parliament, of their arrival and gorgeous reception at Fribourg; but all this has little interest for English readers. Nor was it very interesting to listen to somewhat long and very inflammatory patriotic discourses on subjects we know little about, and care less. Still, after all, the *Tir Fédéral* is a thing well worth visiting, and most thoroughly enjoyable.

THE KINGS OF LAUGHTER.

BY THE REV. E. PAXTON HOOD.

VII.—THE VARIETIES OF LAUGHTER—(continued).

SOMETIMES in the varieties of laughter we notice, and we may hope that we do not often notice, the laugh of mere malignity, like that malevolent specimen Sir Walter Scott describes in the person of the sanctimonious smugger, Thomas Turnbull. Of this canting old reprobate, with the alias of Tom Turnpenny, we are told, in the novel of "*Redgauntlet*," upon the occasion of his hazarding a jest with young Allan Fairford, "Here he emitted a chuckling grunt which lasted for two vibrations of the pendulum exactly, and was the only approach towards laughter in which old Turnpenny, as he was nicknamed, was ever known to indulge." Sir Walter has described another laugh, a type of the benevolent order, emitted from that guileless creature Dominie Sampson—"It is true he never laughed, or joined in the laugh which his own simplicity afforded; nay, it is said he never laughed but once in his life, and on that memorable occasion his landlady miscarried, partly through surprise at the event, and partly from terror at the hideous grimaces which attended this unusual cachinnation." Most of these instances belong clearly to the order of drollery; and so also when Sir George Larpent tells us, while at Waterloo he was standing with the calm and immovable Duke, as his aide-de-camp, a cannon-ball struck close to their feet and tore up the earth, the Duke rubbed his hands, exclaiming to him, "It is getting very animating, sir! it is getting very animating!" It is the sublime unconsciousness and indifference to personal danger which constitutes the droll incongruity here. But we have a nearer illustration in the Irishman who, when asked if any particular

motive had induced him to enlist in the 81st regiment in preference to any other, replied, "Because he wanted to be near to his brother who was in the 82nd." "How will you be tried?" said the judge to another Irishman. "By nobody at all, plaze yer lordship," was the reply. These are the lower instances of absurdity, but it is clear that it is the same principle which compels laughter in these instances as that which governs in irony or satire, in the shaft of wit or in the play of humour.

But this same kind of drollery is sometimes one of the detective instruments of humour, for, as we have already shown, there is a detective power in ridicule which in an astonishing manner reveals the weakest side. "It is noticeable," said Coleridge, "that an eggshell may be made to look exceedingly like an egg." But ridicule amidst applauding laughter smashes the thin eggshells of conceit; it is in this way that ridicule has very often been made to serve the interests of truth. We have often seen this in smart conversation, in adroit reply, in sparkling nimble words round the table. There is an anecdote told of Dr. Emmons, one of the ablest of New England divines; he met a physician, a professed pantheist, by the bedside of a sick parishioner. It was no place for a dispute, nor did it seem at all likely that one could arise; but quite casually, and in the course of conversation, the physician inquired: "How old are you, then, Dr. Emmons?" "Sixty," replied the doctor; "how old are you, sir?" "Ah!" said the physician, "I have you there! I am as old as the creation, doctor." "Indeed!" "Yes," said the physician, "certainly, I was at the beginning of things, I was in

your garden with Adam and Eve." "Ah!" said Emmons, "I always heard that there was a third party in the garden with them; I never knew before it was you!" "A negro," said quaint old Thomas Fuller, "is God's image carved in ebony." To which Dr. Johnson added, "And the slaveholder is the devil's image carved in ivory." In fact the whole history of the literature of laughter, alike in its inferior and superior chapters, shows how much easier it often seems to laugh bad things out of countenance than to reason them out of existence. "I never go to church," said a country tradesman to his clergyman, who was expostulating with his parishioner concerning his invariable absence—"I never go to church, I always spend the best part of Sunday in going over my accounts." "Ah! you will find, sir," said the clergyman, "the Day of Judgment will be spent in exactly the same manner." The instances of the retort courteous, or discourteous sometimes, however, give the clergyman the worst of it. A Scotch divine took one of his parishioners to task for his non-attendance at kirk; the man said, "I dinna like lang sermons." The parson with some wrath replied, "John, ye'll dee, and go to a place where you'll not have the privilege of hearing long or short sermons." "That may be," said John, "but it won't be for lack of parsons." Very curiously, even idiotic brains have been sometimes very clever at this kind of repartee. It was a celebrated Edinburgh professor who accosted one of these unfortunate ones, rather unfeelingly, saying, "Weel, Jock, tell me how long a person can live without brains?" "Ah!" said the idiot, "I dinna weel ken, sir, but how lang have ye livid yersel?" But such instances as these crowd not only upon our own memory, but upon the memory of our readers also.

In every way, therefore, innocent and true laughter is to be regarded as healthful. The points which create it very frequently clear the mind, and unless all traditions are at fault, it is not the less healthful and invigorating to the body. The wise man has said, "A merry heart doeth good like a medicine," and we remember how Dr. Livingstone, when lost in the African solitudes, and in circumstances of extreme weariness and peril, tells us how he cheered himself by that text, and, keeping a cheerful heart, plucked up hope, and urged his steps forward on the way. The old English poets have some exhilarating words on the health-conserving powers of laughter; thus, on one old English Elizabethan page, we read:

"Tis mirth that fills the veins with blood,
More than wine, or sleep, or food;
Let each man keep his heart at ease,
No man dies of that disease.
He that would his body keep
From diseases, must not weep;

But whoever laughs and sings,
Never he his body brings
Into fevers, gouts, or rheums,
Or lingeringly his lungs consumes,

Or meets with achés in his bone,
Or catarrhs, or griping stone,
But contented lives for aye—
The more he laughs the more he may."

This is pitching the praises of laughter pretty high, something higher, perhaps, than strict fact would warrant. But another old English writer says:

"To cure the mind's wrong bias, spleen,
Some recommend the bowling-green;
Some, hilly walks; all, exercise;
Fling but a stone, the giant dies;
Laugh and be well. Monkeys have been
Extreme good doctors for the spleen;
And kitten, if the humour hit,
Has harlequined away the fit."

The historian Hume, once examining an old manuscript of the age of Edward II, found a certain sum set down among the private disbursements of the king—a crown paid to somebody for making the king laugh. If the words of those poets we have just quoted be true, or near the truth, it was cheap at the price. He must be regarded as a public benefactor who adds to the store of the world's innocent cheerfulness, who, amid so much that tends to depression and despondency, provides human hearts and minds either with the pictures of, or motives to, cheerfulness. Such a man might almost be regarded as one of the great producers of society; he is not among such in the definitions of the political economist, but he imparts strength to jaded minds; men and women, after his words, if they be wise and healthful as well as mirth-inspiring, set to work more heartily to front the difficulties and overcome the trials of daily toil; so humorous, animating painting of human brightness and human endurance has helped many a toil-worn spirit. Surely it cannot be without a divine intention that one of the most human things is laughter, and the popular thing is laughter; it may be that the humorist neither gives to us the entrance into the highest hopes and prospects of our race, nor our deepest and most searching and sustaining thought, but he enables us to take refreshment in the parched and parching desert, and lightens the most serious aspects of life by enabling us more cheerfully to bear. Without a doubt cheerfulness is the very life of life.

Laughter is sometimes to be spoken of as the nitrous oxide of life, and it teaches us truth in much the same way as that in which nitrous oxide does, by first deforming things to teach us the wisdom of their true proportion; as azote or nitrogen exists in the air we breathe four in five, yet is itself inimical to life, and cannot be breathed without sudden death—if we alter the arrangement we only make a monster for our pains, yet the monster teaches us a lesson in natural theology which some could only learn thus. So, when divines and philosophers exhibit hostility to laughter, we may remember that we may, in order to healthful respiration, breathe it always in moderation, while sometimes it may even be not unwise to inhale a larger and even disturbing dose. It belongs, then, to the chain of divine uses, it is

the result of laws, it is beneficial in its intention and operation, it is the evidence of opposite principles at work in nature, in the world, and in the human mind; it is certainly the evidence of some central unity and personality, and it assures us also that there is in us and over us something better than we have yet attained. Thus the highest order of laughter is a radiant cheerfulness where the feelings and the perceptions are in too close intimacy, union, and alliance with the moral sense and the deepest instincts to admit of the wild peals of folly. To this rank belongs, too, the highest order of comedy, in which we sometimes see the triumph of good over evil complications and arrangements. This is the intention of the "Tempest," "The Merchant of Venice," and "As You Like It." Thus, if merriment is at the bottom of the ladder of laughter, cheerfulness is at the top; the merely merry man has never passed through those stages of melancholy which soften and subdue, but give sublime perceptions to life; his laughter is the impulse of abounding and joyous instinct, but nothing more.

But then again laughter sometimes becomes severe, rouses the power of the satirist, perhaps parts with some measure of geniality for the purpose of teaching lessons which only could be taught by the grotesque and incongruous relation. The humour of John Bunyan was of a very severe order, yet he was a humorist; and there are plenty of passages in his "Pilgrim's Progress" capable of kindling on the face something more than a smile. Perhaps Nathaniel Hawthorne, the American writer, was even a more severe humorist than John Bunyan, but he was a humorist. In one of his charming papers, however, it was his pleasure to tell, under the story of "The Celestial Railway," how he travelled along the same road in

our day which Bunyan's pilgrims took two hundred years since; and he shows how the old road to heaven is now traversed by the line of that Celestial Rail. People take their ticket and never are expected to know anything more of the road until they reach the end of the journey; the enormous burden, instead of being carried on the shoulders, is snugly deposited in the luggage-van,—it is most convenient to travel so. The famous Slough of Despond, like Chat Moss between Manchester and Liverpool, is converted, filled up by volumes of philosophy, and by a scientific process of rationalism; the train whisks over the bog, though it still heaves and vibrates in an ominous manner. Apollyon, who fought that hard battle with Christian in the Valley of Humiliation, is converted too; he is the very fellow to manage the engine, so he is engaged as chief conductor; Mr. Smooth-it-away is chief engineer, and in Vanity Fair Christian pilgrims are in high estimation; there, where Faithful was burnt, they have now eminent preachers, the Rev. Mr. Stumble-at-truth, the Rev. Mr. This-to-day, and his ingenious and excellent curate the Rev. Mr. That-to-morrow; and there is especially that very eloquent preacher, the Rev. Mr. Shallow-deep. Here and there are some foolish pilgrims, like Mr. Stick-to-the-right and Mr. Foot-it-to-heaven, who foolishly prefer travelling the old way. Apollyon, honest fellow, Mr. Hawthorne saw puffing his smoke into their faces at the beginning of the journey. The story of this "Celestial Railway" is told by Nathaniel Hawthorne at great length, far more than we can bestow, and we have only referred to it as a favourable illustration of the manner in which the wise humorist can use his faculty of laughter, not merely to inspire an impulse of cheerfulness but to print a solemn lesson on his reader's mind.

The Emigrant's Farewell.

ALREADY in the distance fading,
Sweet Erin, dost thou smile on me;
Already stern regret upbraiding
Hath wrung my heart at leaving thee.

The trembling tears that start unbidden
Would rob me in my own despite;
I will not weep, lest thou be hidden
One moment sooner from my sight.

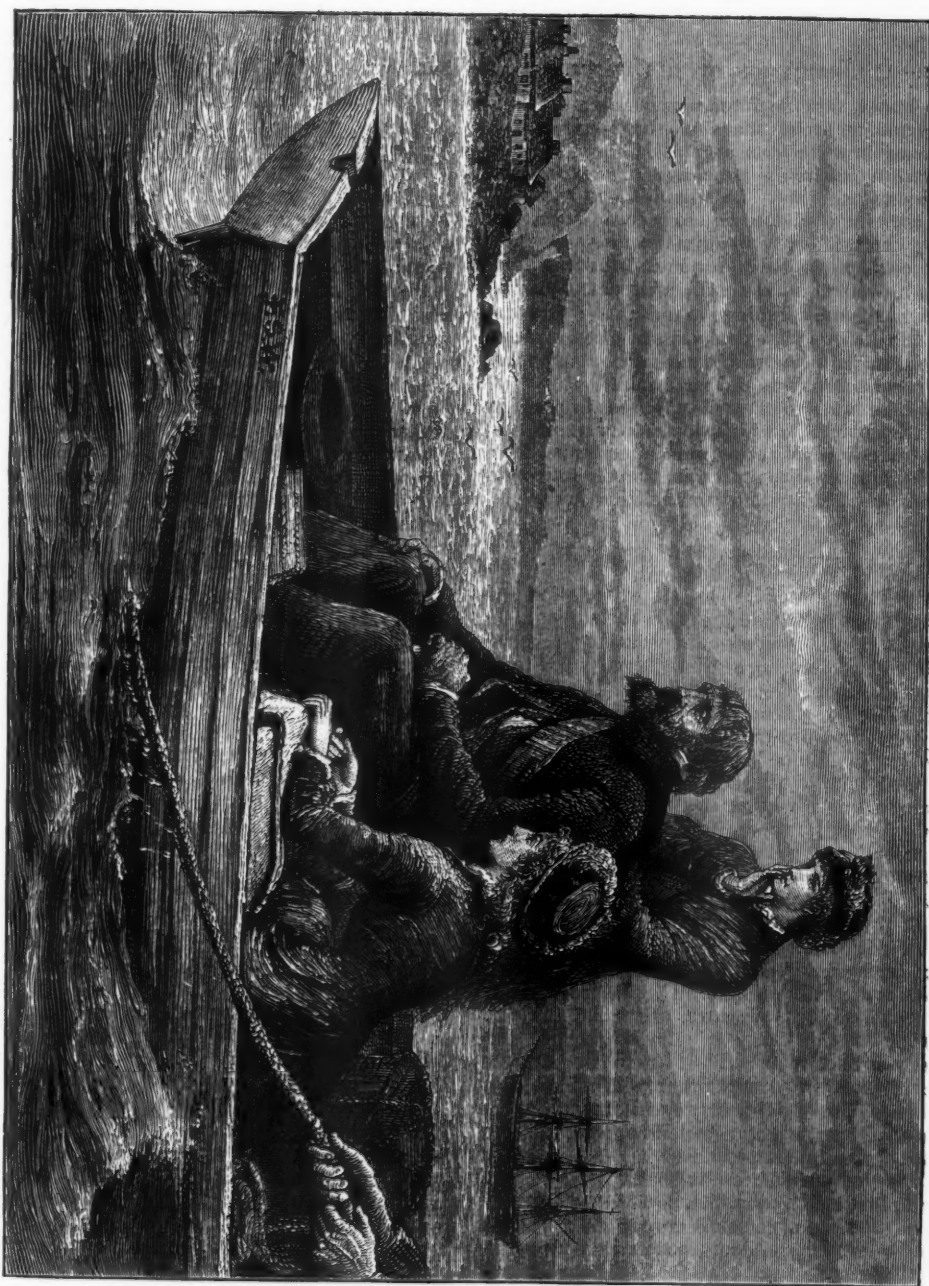
My boyhood's home is nestling yonder,
Beneath the hill's o'ershading brow;
Ah! whither do my footsteps wander,
And wherefore must they quit thee now?

I lingered long, till time bereft me
Of chiefest joy to life assigned,
Nor then had half despairing left thee,
Were fortune mine, or fate more kind.

They say that Western shores are lavish
Of work and wage to willing hands;
That fairer scenes than thine will ravish
Our wond'ring eyes in other lands.

Yet, Erin, shall the future win me
No dearer home beyond the sea;
And none will stir the heart within me
As will the faintest thought of thee.

S. E. G.



THE EMIGRANT'S FAREWELL.

ENGLISH THRIFT: ITS HELPS, HINDRANCES, AND HOPES.

BY THE REV. W. T. BLACKLEY, M.A.

PART III.—HOPES FOR THRIFT.

I.—CLASSIFICATION OF THE HOPES.

THE hopes for the future encouragement and development of English thrift which we come now to consider follow naturally a classification such as we have made of its hindrances, and may be divided into those which are founded on an expectation of increasing knowledge and good sense on the part of our people themselves and those which we have a right to build on the prospect of future legal enactments, tending to stimulate and to secure the independence of classes whose future provision, under present circumstances, must be more or less precarious and uncertain.

It will be well to treat first those hopes for thrift and providence which depend for their fulfilment on individual action, and afterwards those whose brightest prospect lies in the alteration or supersession of faulty and demoralising laws.

II.—NATIONAL EDUCATION IN THRIFT.

The primary requisite to all stimulation of voluntary thrift is knowledge upon the subject. A general idea of providence is probably present enough to most average minds, even of wholly uninstructed men, since, apart from the natural instinct of self-preservation, the precariousness of employment and ordinary means of living is constantly brought home even to the minds of children. But one of the strongest hopes we can entertain in this direction is that of making the subject of social economy not merely an occasional or optional, but a general and indispensable part of all our teaching in national schools.

So far as this we have not yet come, although many of those most earnestly interested in the cause of national education feel the importance of such measures. At the present time teaching of this sort is only optional in our schools, and takes its chance as an extra, or special subject, according to the fancy of the managers, the teachers, or both together. It has to compete, for this reason, with a great number of other subjects of study—all, no doubt, very excellent and valuable in their way, even regarded as mere vehicles for information and as mind-expanders generally—but none of which has any so surpassing claim to general inculcation as this.

More than this, social economy as a "class subject"—that is, a subject to be taught throughout all the upper classes in a school—is unaccountably omitted from the list given in the new education code as entitling to grants; and if so very little, indeed, of the subject be teachable as comes under the name of "Domestic Economy," it is not only limited as a *specific* subject, to be taught to individual children, and not through the classes,

but, even in that limited form, appointed to be taught to girls only, and not to boys.

III.—STRONG CLAIM OF THE THRIFT SUBJECT TO BE UNIVERSALLY TAUGHT IN NATIONAL SCHOOLS.

However neglected hitherto, I think it will not be hard to prove the preponderating claim which this subject can advance over all other class and specific subjects to be systematically taught in our schools, and that not in a merely occasional and optional form, but as a part of our whole national *curriculum* of instruction.

At the present time it appears *nowhere* in the schedules put forward by authority. Let us see to what subjects of instruction teachers are now limited in class teaching.

Leaving out English, which is compulsory, and needlework, which is limited to girls, we find singing by note, geography, elementary science, and history to be the only class subjects the teaching of which will gain a grant. This practically amounts to the exclusion of any other subject. Now there are children (I am glad to think not many) who have no taste for singing, no desire to learn it, no ear to distinguish one air from another; there are multitudes more to whom the power of singing by note, if acquired, will never be likely to prove of the smallest practical utility. As to geography again, as a matter of *practical utility* in after life (for I have not a word to say against the teaching of these subjects as mind-openers), it will be found altogether unserviceable to the large majority of our school children. Again, many not undistinguished men get through long lives without acquiring or understanding elementary science; and so much knowledge of history (even if we could ever get it unadulterated) as a sixth-standard child will carry away into working life from our national schools will do little towards keeping him out of political mistakes throughout his career. Without a word in depreciation of the use some knowledge of these subjects may be of to some of our children, the very fact that they are left optional for any proves that they are not indispensable for all. These things, indeed, cultivate the intellect and adorn existence, but they are, after all, non-essentials in comparison with Thrift and Providence. Some folk can do without singing, some without grammar, some without geography, some without history, some without science. But as every child that we enter in our schools requires to live and thrive, most surely it is our duty to teach every child how to do it. The way to earn their bread, to pay their way, to do their social duty; to become good citizens, good parents, prosperous, contented, independent men and women; this, which is of gravest moment to them all, we leave untaught entirely, while things

that can at best prove serviceable to the few we spend our toil in dinning into the minds of all.

If this be not enough to vindicate for social economics, or, in a word, for "the Art of Thrift and Providence," a claim to be taught to *all* our national school children, I will offer one further argument in this direction. This art *must* be learned in youth, in early youth, and put in practice from the beginning. A man of thirty may learn to sing, to study mathematics, to make machinery, to write books, to make speeches; but if he wait till then to study thrift he has lost his chance of providence. He may, as one in a thousand, prosper by luck, but he is too late to prosper by system. The general possibilities of successful thrift lie in the education of childhood and the habit of early self-denial; and the principle of thrift, thus timely instilled, needs the practice of providence applied to the large available sparings of vigorous unincumbered youth, in order to provide the only sound foundation on which a secure and sufficient fund for independence and comfort may be built.

IV.—EXTENSION OF SCHOOL PENNY BANKS.

I mentioned, among existing helps to thrift, the penny banks established in a good many of our national schools. It would be a good "hope for thrift" if their establishment were required in all. To do this, as there are very many places where suitable volunteers for the work are not to be found, it would be necessary to employ the school staff. And, considering the claims already made not only on the hours but on the very minutes of our hard-worked teachers' time, it would be most unreasonable to require the penny bank business to be attended to *out* of school time. The work, however, in the largest school would not take more than ten minutes once a week, and those ten minutes might be easily placed in the timetable, shortening some frequent lesson for the purpose. The teacher of each class might mark the pass-books as handed in, and one of the scholars, each week in turn, fill in the ledger, or *vice versa*; and thus, in its school course, every child would be made familiar with the system of saving and of keeping a plain bank-account.

This might just as well be required of school-teachers as the teaching of any other subject. But I would give them an additional inducement to push this particular branch of instruction with zeal. At the present time very few school penny banks pay any interest at all on deposits under ten shillings, it being considered (and rightly) better to encourage the opening of separate Post-office accounts as soon as a child's school deposit reaches that sum.

But the Post-office pays a small interest on the aggregate deposits made by the school penny bank, and that interest (after paying the almost entirely nominal expenses) would prove some little remuneration to the head teacher in a school for undertaking this additional responsibility, and would be relatively large or small in proportion to the work actually done.

V.—FUTURE DEVELOPMENT OF THE POST-OFFICE FOR THRIFT PURPOSES.

The Post-office organisation has already made great efforts towards aiding national thrift and providence, and it is by no means by way of spurring a willing horse that I come to urge here for one object, as I shall do farther on for another, a great extension of its beneficent work.

It is a sheer marvel how hard it seems to the common mind to conceive of developing Post-office thrift-facilities without assuming that this cannot be done without overworking Post-office officials. Increase of work will of course necessitate increase of workers, but this will result in giving more employment in particular branches of Post-office operations, while making the whole organisation more useful to the public. No private concern ever hesitates to extend its business from a fear of overworking its staff; on the contrary, it is quite ready to increase its staff in order to develop its business. And this singular and almost silly tenderness for the Post-office is entirely to be set aside by the consideration that, holding as it does a strong position in every hamlet in the country—being, as it is, the universal medium of communication—the Post-office organisation is plainly destined, as a direct consequence of its present work, to take up and carry out, from time to time, numbers of other operations tending to the convenience and advantage of the nation. For it can do safely, systematically, and at a mere nominal cost, a number of good offices for the people, to organise which, by any other conceivable means, would be costly, uncertain, and insecure.

Of course it cannot adopt new work and frame new machinery at a moment's notice. I have been informed that the postal "saving slips," though only introduced under the present Post-master-General, were designed for use several years previously, for the preparation of all such measures takes up time. But that, as time passes on, this great national machine must be put to use for one new public facility after another, with whatever extension of staff and machinery may be found needful, is as self-evident a proposition as that a healthy child must grow.

VI.—ADDITIONAL ARGUMENT FROM THE ESTABLISHMENT OF A PARCELS POST.

The newly announced establishment of a parcels post, managed by the Post-office, is an overwhelming refutation of the notion that the Office cannot undertake a greatly extended national business in the way of savings and insurance generally; for it is perfectly plain that all such Post-office work as this would be done by ordinary clerks, whose numbers can be and are readily increased, according as required. But the parcels post will at once necessitate not only the erection in many places of storehouses and weighing machines, but the employment of an army of porters and country carriers, and the procuring, either by hire or purchase, of horses and carts in nearly every parish in the country.

In short, in a matter of this sort, the convenience of a department is nothing whatever as compared to the convenience of the nation for which the department works, and by which the department is created, and should be developed.

VII.—INCREASE IN NUMBER OF POST-OFFICE SAVINGS-BANKS.

The new legislation likely to result from the deliberations of the Post-office Annuities Committee, of which Mr. Fawcett was chairman, will provide for a very large increase in the number of post-offices where savings-bank and insurance business can be transacted. And this is, indeed, a hopeful step, taken, moreover, in the face of a considerable difficulty.

For the moment a small post-office is required to transact general money business, including savings-bank and insurance transactions, the possibility must be faced of the postmaster being occasionally in temporary possession of considerable sums of money. And this causes two dangers: the one that of exposing the office itself to the attacks of thieves, the other of subjecting the officials to temptation. The security ordinarily required for the honesty of a village postmaster is £50. It is obvious that to safeguard the public fund effectually a larger security will have to be given where at times a much larger sum than this may be, and may be known to be, in the hands of the postmaster.

VIII.—PROPOSED EXTENSION OF POST-OFFICE LIFE INSURANCE.

Readers of these papers will remember that in Part I, section 22, under the head, "Post-office Life Insurance," I pointed out, as a great impediment in the way of using the cheap and safe machinery of the Post-office for industrial life insurance, that £20 was the smallest sum and £100 the largest for which it would insure a life; also that the average insurances hitherto effected were for no less an amount than £80, while it appears from the returns of the Prudential Insurance that the average sum really required by the working classes is as small as £8. The new proposals will remedy this great deficiency in a most satisfactory way by very largely reducing the minimum amount insurable, and thus enabling the earners of lowest wage, when they can see the relative cheapness and security of the Post-office organisation for the investment of their savings, to effect life insurances of the smallest amount within their means and will.*

Until the recommendations of the committee pass into law it is useless to criticise their terms or to forecast their success or failure; it must for the present suffice to accept them as an unquestionable boon, and as likely (especially if further developed, as they very easily may be) to prove of great and growing advantage to our

* The extending of the maximum Post-office life insurance from £100 to £300, proposed by the Bill, seems to be a great mistake, and should be dropped. It is not urgently required by any class, and, naturally exciting the strong opposition of existing assurance companies against the whole Bill, may endanger its passing into law at all.

thrifty poor. We cannot but regard as a very bright hope for thrift the fact that public opinion in clamouring for, and gaining at last, this extension of Post-office facilities (which was at first opposed and refused in the avowed interest of existing speculative organisations much less important than many now at work), has established the principle that all such organisations should exist for the profit of the people, rather than the people for the profit of the organisations.

IX.—PROBABLE SMALLNESS OF IMMEDIATE RESULT FROM PROPOSED CHANGES.

But while we gladly accept, without criticism, the terms of the new proposals and the principle which they affirm, it would be most unwise to shut our eyes to the fact that these proposals, so far as they go, can only be expected to do a little service, and that their hopefulness for the thrift cause lies not so much in what they directly effect, as in what they render possible.

There is no question, and we need not mince the matter, that, in its lowness of rate, and its national guarantee, the Post-office Industrial Insurance gives the insurer an advantage, in principle, over every other. And people, therefore, will be found to say, "If the working class choose to use other offices than the Post-office, and to their own disadvantage, they have themselves to thank." Yet there must be a reason for such conduct, if they do; and the reason is a good one. However obviously the victory of principle lies with the Post-office in competition with the industrial companies, insurers will not reap the benefits thus offered till it compete with them in practice too. If the collectors for the Prudential or other companies never came to the workmen's doors to ask for their instalments, leaving insurers to make their own periodical visits to a collector's office, industrial insurance generally would come to an end in universal lapse. I do not think I shall be far wrong in saying, that no matter how cheaply and how safely the Post-office may be willing to effect industrial insurance, unless it take means of bringing it to insurers' doors instead of their bringing it to the Post-office, such insurance, in any national sense, can never even be expected to begin.

X.—POPULARISATION OF POST-OFFICE INSURANCE.

And yet, every other condition having become favourable, the restrictive limits of insurance hitherto existing having been removed, it would be a deplorable thing to allow the great advantage now offered by the Post-office to be ungrasped by our people, for the want of one single condition; from admitting the hasty assumption that it must be impossible for the Post-office to adopt the method of our great collecting societies without their extravagant cost of collection and their waste of thrift in the way of lapse. "Because," we shall be told, "the societies collect their premiums weekly from door to door, it must be absolutely impossible for the Post-office to collect its pre-

miums without involving the department in unmanageable labour, and burdening the insurance with a prohibitive loading for collection and management." Is there any possibility of getting over this great preliminary difficulty, or, better said, impossibility?

I venture to think there is no sort of impossibility about it, and that the difficulty may be surmounted with much ease. The secret, to my mind, lies in utilising machinery and methods already at our hand in the Post-office establishment.

XI.—INSURANCE BY (QUARTERLY OR) ANNUAL PAYMENTS INSTEAD OF BY WEEKLY ONES.

It is clear that if we could make it the plain interest of all industrial insurers to pay annual (or even quarterly) premiums instead of weekly ones, that we might lessen the number of separate transactions now necessary, and save forty-nine fiftieths of the trouble and cost of management at present incurred.

Again, if we can enable the insurer to pay in his money at the moment or moments of the year when he has most money by him, instead of risking the forfeit of his insurance whenever hard times have brought his little instalment four weeks into arrear, we shall have saved a vast number from the danger of lapsing; while, thirdly, if we give postmasters and letter-carriers a strong money interest in the matter, and that extending alike to origination and keeping up of contracts, the number of lapses will be likely still further to diminish. In this case we shall be pushing insurance business by 35,000 agents instead of by 7,000 employed by the Prudential, and our collectors, the letter-carriers, already employed on the spot for other purposes, will be available everywhere every day instead of only once a week. Then we may fairly conclude that the insurance we promote will cost less than two-thirds of present collecting companies' rates, or, in other words, will secure to the poor, for the money which they now pay, benefits half as high again as they are now able to obtain.

XII.—HOW TO GIVE POST-OFFICE OFFICIALS A DIRECT INTEREST IN PUSHING INDUSTRIAL INSURANCE.

I think the whole difficulty in the matter will lie in securing to the Post-office functionaries a sufficient money interest in pushing insurance business.

But, it will be said, they have no time for it; they cannot stop at every moment on their rounds to balance penny pass-books; they cannot call at every house and wait for insurers to produce their money; they cannot wait and sign deposits, and transfer these deposits to the office of issue, and the postmaster there cannot correspond with headquarters on the subject of each weekly payment without occasioning a cost for each transaction far higher than the sum paid in, and involving a waste of public time and convenience impossible to be risked.

I admit all this, but answer that they may carry on the insurance I propose without doing any one of these things.

If the Post-office will simply issue special insurance stamps in all values from a penny upwards, and require postmasters and letter-carriers to have such stamps on sale (as they do now, as regards postage stamps), receiving a good commission on their sale, the whole of our industrial insurance might come to the Post-office at a cost in labour to the department of booking only one transaction in a year, and with a saving to the poor, *in cost of collection alone*, of at least five shillings in every pound they scrape together for the purpose of assurance.

Say, for instance, that a man of thirty insures his life for £5. In the course of the year, at any most convenient time or times he pleases, he may buy insurance stamps for 2s. 6d. from the letter-carrier, and affix them to a savings slip, as is done now with postage stamps for savings-bank deposits. If he fears that these stamps may be stolen, or that he himself may be induced to sell them again and so jeopardise his policy, he may write his name across them at once, and so make them valueless for any earthly purpose beyond the insuring of his own life. Thus the insurer will be safe from the constant present risk of letting his policy lapse, the letter-carrier will simply account "by cash" for every pound's worth of stamps he sells, receiving a very good commission to make him zealous in pushing sales. The present commission on sale of postage stamps is twopence in the pound, and I do not see why, if eventually necessary, the commission on sale of insurance stamps (of course added to the cost of premium) might not be as high as one shilling in the pound; they would still leave an enormous saving to the poor. By this means, as I have said, one single annual Post-office transaction will suffice for each insurance, and the desired provision may be made with national security, with great immediate cheapening to the poor, and with the prospect of far greater, since the State will not need to make profits as the companies now do.

Success.

"You yet shall listen," said the trembling tongue,
And nations waited for the lightest word;
The faltering voice that ocean caverns heard
In moving eloquence through Athens rung.

To lonely garrets hath the poet sung
The strains that deepening have the future stirred;
The nest-notes of the heaven-ascending bird,
How weak to warblings o'er the corn-fields flung.

The rain-drop dancing on the leafy spray
May herald storms the giant oak to shake;
The day is born from glimmering twilight grey.

The snow, that gently falleth flake by flake,
Makes mighty avalanches. Through the clay
The slow, but plodding flow'rets surely break.

J. KINNERSLEY LEWIS.

THE NEW FOREST.



IN the misty days of our early history, England was covered to a large extent with forests. For a long period the kings had almost a monopoly of possession. They were wont to frame forest laws of the most barbarous severity, to offend against which, whether by freemen or by "vilein," involved either heavy fines, mutilation, or death. This Draconian rule existed even before the advent of the Norman kings, and these, being keen sportsmen, and having as little regard as their Saxon predecessors for the civil rights of their subjects, stretched their privileges still further to the utmost extent of their power. It was not until the reign of Henry III that this injustice, which was felt alike by the nobles and by the people, roused a resistance strong enough to bring about reform. A great *carta de foresta* was granted,

By degrees these woodland tracts grew smaller and thinner; wild animals of the chase, for whose shelter the thickets and coverts had been preserved, were exterminated; timber was cut down in increasing quantities to meet an ever-increasing demand, and at last came the great Civil War, which brought destruction to many of the old landmarks. Royal as well as private forests suffered, and many of them almost passed out of existence. James I was the last of the old line of hunting kings, and when the Restoration came the second Charles cared little for timber except as a means of raising money. The careful management of the royal forests, in view of the requirements of a rapidly-increasing navy, was a matter of the greatest importance; but there appears to have been constant mismanagement. About the beginning of the present century Lord Nelson drew the attention of the Government then in power to this recklessness of the public interest, and even so short a time ago as 1848 and 1849 there was a Commission of the House of Commons to inquire into alleged irregularities in the management of the New Forest, the evidence elicited revealing a most flagrant state of dishonest waste and peculation.

Since the commencement of this century several of the old forests have disappeared: Sherwood.



AN ENGLISH LANE.

which to some extent made restitution of stolen lands, and mitigated the severity of the forest laws.

sacred to the memory of Robin Hood and his merry men in Lincoln green, was sold in 1827; Hainault, which was formerly a part of the old

Forest of Essex, and Wychwood, in Oxfordshire, were disafforested thirty years or more ago; and what was left of Epping Forest was rapidly dis-

that time was that the death of the sons was a just retribution for the father's ruthless cruelties.

In earlier times the boundaries of the Forest



FOREST ROAD FROM LYNTHURST TO BROCKENHURST.

appearing when the Corporation of London stepped forward to secure it for the people. It is a happy thing that with the later phases of our civilisation there has grown up a keen appreciation of the beauties of Nature in its own untrammelled state, an appreciation not only æsthetic but also philanthropic. This sentiment has proved strong enough in many instances to overcome, even in this busy crowded beehive of England, the stern arguments of utility. When in 1875 the question of the New Forest was considered by a select committee of the House of Commons, a new element appeared. It was no longer simply a matter of relative rights. Artists, poets, philosophers, men of letters, all joined in urging that the woodland glades should be protected from encroachments.

The New Forest is only about three hours' journey from London—eighty-five miles from the Waterloo Station of the London and South-Western Railway—so that a man, jaded and weary in the struggle of the great city, may in a few hours find himself as far away from any of the harassing associations of his work-a-day life as if he had travelled thousands of miles across the ocean.

The early historical associations of the New Forest are too well known to need more than a passing reference, and we will not trouble to go into the rival arguments of chroniclers as to the conduct of William the Conqueror in connection with it. The blood of two of William's sons, Richard and Rufus, was spilt on the soil of this royal hunting-ground, and the popular belief of

stretched from Southampton Water on the east to the River Avon (Hampshire) on the west, and having the seacoast for its southern boundary; but since then there has been a shrinking on nearly every side. According to the latest survey, the present extent of the forest is about 91,000 acres, extending fifteen miles from east to west, and twenty miles between the widest points from north-west to south-east. Of these 91,000 acres, 26,000 now belong to private landowners, 2,000 are the absolute property of the Crown, free from rights of common, whilst the soil and freehold of the remaining 63,000 acres are the property of the Crown, subject to the commonable and other rights of proprietors and their tenants. Although the title of forest applies to the whole of this area, only 25,000 acres are covered with timber, and 5,000 only are old timber, the rest being comparatively young plantations. There is a little handbook, published at Lyndhurst and Southampton, ably compiled by Mr. C. J. Phillips, which gives a very clear and concise history of the New Forest; and with a pocket-compass and this guide-book one cannot easily miss seeing all the principal points of beauty and of interest within the district.

Speaking generally, the northern and north-western parts of the forest consist of open moorlands and heath-plains, sloping down towards the south, whilst the woodlands lie in the middle and stretch towards the south and south-east. The Rev. R. D. Blackmore, who immortalised Exmoor Forest in "Lorna Doone," has, in another of his charming stories, "Cradock Nowell," painted, in his own quaint descriptive style, the scenery of the

New Forest, and it would not be possible to find better words than his when he says—

"The scenery of the New Forest is of infinite variety; but the wooded parts may be ranged, perhaps, in a free, loose-branching order (as befits the subject), into some three divisions, which cross and interlace each other, as the trees themselves do.

"First, and most lovely, the glades and reaches of gentle park and meadow, where the beech-tree invades not seriously, or, at any rate, not with discipline, but straggles about like a tall centurion amused by ancient Britons. Here are the openings winged with fern, and ruffling to the west wind; and the crimped oval leaves of the alder rustle over the backs of the bathing cows. In and out we glance or gaze through the groined arcade of trees, where the sun goes wandering softly, as if with his hand before his eyes. Of such kind is the Queen's Bower Wood, beside the Boldre Water.

"Of the second type, most grand and solemn, is the tall beech forest, darkening the brow of some lonely hill, and draping the bosomed valleys. Such is Mark Ash Wood, four miles to the west of Lyndhurst. Overhead is the vast cool canopy; underfoot, the soft brown carpet, woven by a thousand autumns. No puny underwood foils the gaze, no coppice-whispers circulate; on high there moves one long, unbroken, and mysterious murmur, and all below grey twilight broods in a lake of silent shadow. Through this, the ancient columns rising smooth, dove-coloured, or glimpsed with moss, others fluted, crannied, bulging, hulked at the reevings of some great limb; others twisted spirally and tortuously rooting; a thousand giants receding, clustering, opening elbow peeps between them, standing forth to stop the view, or glancing some busy slant of light in the massive depth of gloom, they seem, at times, to be gliding.

"The third, and most rudely sylvan form, is that of the enclosures, where the intolerant beech is absent, and the oak, the spruce, and the Spanish chesnut protect the hazel, the fern and bramble, the dog-rose and the honeysuckle."

We are told by the cognoscenti that it is a popular error to believe that the grander forms of Gothic architecture, with the clustered columns and vaulted and groined roofs, are simply the expression of the natural grandeur and beauty of a forest glade; but whether it be an error or not, the apparent connection between the two is the first thought that strikes one in entering suddenly under the shade of a group of the old beeches of the New Forest. There is a silence and a cool shade, like that which falls upon us when we step aside from a busy sun-lit street into the sacred stillness and "dim religious light" of the aisle of some grand old cathedral; and as we stand on the soft carpet formed by the layers of centuries of dead leaves (for the "intolerant beech" will suffer nothing green to grow under its shadow), and look up at the smooth, rounded columns of the trunks, and up again where the limbs and branches cross and interlace, and, as it were, groin the blue vault above, we cannot fail to recognise that the simile has some truth in it.

Apart from the grandeur of many of the old trees in Mark Ash and Boldrewood and Brockenhurst, there is a singular beauty in the way in which the stems of the oaks and beeches are spangled with lichen and moss, affording contrasts and blendings of colours so exquisite as to make one long to transfer them to paper or canvas. Some of the trees are draped from crown to root with velvety green moss, and even the branches are covered with it, and the effect of sunlight glancing on the rounded sides of the stem and limbs, and touching them with a brighter golden green, flecked and barred with the darker green where the shadows of the branches and the shimmering leaves fall, produces a picture not easily forgotten when once the eye has photographed it and the brain has stored it away in its picture gallery. And the higher and more open parts of the forest have their beauties also, for where can one find a more perfect landscape than that revealed from Bramble Hill, above the wooded valley in which nestles the little village of Bramshaw, away near the northern edge? The eye wanders over purple heather, golden-flecked gorse, and masses of bracken, away over wooded hollows and ridges, a rolling expanse of green, with perhaps a gleam towards the south-east of Southampton Water.

Or, again, let us take our stand on the high ridge at Stoneycross and enjoy the glorious view which lies open before us, a grand expanse of cloudland and woodland hardly to be surpassed in this beautiful land of ours. Passing along the ridge towards Lyndhurst and past the inn at Stoneycross, we look to our left down into the piled-up masses of foliage of Canterton Glen, in which Rufus met his death. The traditional tree from which the fatal arrow glanced has disappeared, but its site is marked by a stone bearing an inscription which briefly records the event.

But not only is the New Forest a place of pleasure for artists and simple lovers of Nature's landscapes, but it is a happy hunting-ground for botanists, entomologists, and ornithologists; it is rich both in rare and commoner forms of flora; it is unsurpassed in its treasures of butterflies and moths, and beetle-hunters rejoice in it. It is a paradise for birds, for its varied features of open moorlands and swamps, its dense woodlands and running streams, give the forest peculiar attractions for our feathered friends. Besides the birds which reside with us all the year round, the migrants flying from the south find in this southernmost of our forest lands a speedy and welcome nesting-place and shelter after their wearying journey. As for the larger fauna, the herds of forest ponies lend life to many of the scenes, and in the autumn, during the six weeks of what is called the "pannage month" (25th September to the 22nd November), we come across the droves of pigs which are turned out to feed on the beech-mast and acorns which strew the ground. It would be difficult to say in which of the three seasons of the year, spring, summer, or autumn, the forest presents the greatest beauties—spring with the golden greens of the beech leaves, its primroses and violets, its bluebells and the green stalks of the springing ferns, with heads rolled and

curled like croziers; summer with its masses of rich glossy green, its hot sunshine and cool shadows; or autumn with its rich reds and crimsons, browns and yellows, creeping amongst the bracken and tinting the dying woods with sunset hues. Poets have sung and artists have painted all three with equal truth, and as each season comes in turn, we think, in present enjoyment, that it is the most beautiful.

There is, however, a peculiar charm about woodland scenes in autumn, and that is the wonderful variety of rich colouring which Nature assumes before decay comes and strips the trees and shrivels up the ferns. And this glory of autumnal tints is not merely a general effect which enriches the landscape, but even the smallest details of leaf and frond repay in their beauty the closest scrutiny. Every one who has ever passed an autumn in the country knows the transformations of colour which come over the leaves. The green gives place to brilliant orange, crimson, dark red, and russet brown, and so brilliant are they that the most careless eye appreciates the charm. But although the beautiful colouring of autumn foliage is so universally recognised, it is only lately that any attempt has been made to record with accuracy and with artistic fidelity the forms and colours of the autumn leaves of our trees. Leaves have generally been represented merely as an adjunct to flowers, but Mr. Francis George Heath has shown us in his "Autumnal Leaves," recently published (S. Low & Co.), that when the time for flowers has gone, the leaves put on a beauty which in variety and richness of colour rivals many of our flowers. Mr. Heath's eloquent pen is always busy, either in teaching us where to find and how to appreciate the treasures of Nature amongst her woods and flowers and ferns, or in pleading for the protection of these treasures, so that they may be kept from the destroying hands of rail and tram companies or from the

desecration of the land grabbers and speculative builders; and in his latest work he has opened up to us a comparatively new world of beauty by the way in which he has fulfilled his labour of love.

The first part of "Autumnal Leaves" is devoted to the New Forest as it appears at the end of September, and any one who meditates a visit there would do well to follow Mr. Heath's itinerary, and after reading his glowing and enthusiastic word-paintings of the varied views in heath and glade, he must, if he have any love of Nature in him, acknowledge that the preservation of the New Forest is a national boon. The second part of the book is devoted to the autumn leaves, and it is beautifully illustrated by a series of chromolithograph plates representing the leaves of nearly forty of our trees and creepers. Photography has been employed to ensure perfect accuracy in the conformation of the leaves, and the venation and colouring are rendered in a way that reflects the utmost credit on all concerned in the reproduction. There is no exaggeration even in the most strikingly beautiful of the specimens; indeed, absolute truth only has been aimed at, and that has been achieved. Mr. Heath calls this autumnal colouring the "blossoming of autumn;" the richness of the reds and russet browns, the depth of the orange and olive tints, give rather the suggestion of the sunset of the year, but the association of the dying year with blossoming is a happy one, and we cannot find fault with it.

To return to the New Forest; there are many different ways of seeing and enjoying its beauties, but one cannot do better than to start from Lyndhurst, making that pleasant little place the headquarters.

With a map, a pocket-compass, an easy conscience, a pleasant companion, and a love of beauty in Nature, it would be difficult to spend a few days more happily than in the New Forest.

F. G.

NOTES ON THE EASTERN CITIES AND MUSEUMS OF THE UNITED STATES.

BY AGNES CRAME.

II.

A VERY brief experience of the ordinary American railway car, which corresponds with our second-class carriages, convinces most Europeans that the lot of the day or short-distance traveller is not one of wholly unmixed pleasure. For fifty separate windows opening only from below, and controlled by the like number of persons, imbued with somewhat contradictory views on the subject of ventilation, do not add to one's comfort. Moreover, American babies travel very extensively, and are as a rule characterised by all the infantine failings with but a modicum of attractiveness, and the youthful citizens apparently crowd all their disagreeable ways into the very brief days of their childhood. There is but a scant supply of pegs and racks wherein to bestow

the small impedimenta too fragile for the baggage-master's care, nor can these be stowed away under the low, short-backed, two-seated sofas, which all face one way and afford little facility for conversation. At express speed the cars rock violently, locomotion down the central passage is difficult, and the attractions of the much-vaunted platforms vanish into draught and smoke-begrimed air.

The constant opening and shutting of the doors for the passage of the brakemen and conductors, with the reiterated demand for tickets, is very wearisome, while, to crown all, the irrepressible newsagent, who keeps a general store in the baggage car, tempts one periodically with stereoscopic views, pea-nuts, maple-candy, oranges, bananas, etc., returns, gathers up, and vanishes with his re-

jected stock in trade, but only to reappear, after ten minutes' false hopes of peaceful contemplation of the scenery, to pile up on and in front of you illustrated papers, magazines, sermons, novels, poems, and other mental sustenance. Every one has frequent recourse to the cistern of iced water, looking resignedly flabby in the universal "duster," a brown holland ulster adopted by both sexes as a protection against the dust which, as on a March day in England, drifts into every crevice, while the floating particles of soft coal from the locomotive gradually reduce all complexions to one level—that of a stoker on an English engine. On the other hand, these cars are lofty, roomy, and cooler than the Pullmans, afford good views of the scenery, and the best opportunities to observe the peculiarities of their truly cosmopolitan occupants.

The 142 miles separating New York city from Albany are run in four hours by the Hudson River Railroad, a branch of the New York Central, the famous "four-track" road which, like the "Pennsylvania," is well ballasted and characterised by steel rails, excellent rolling stock, and really makes good its boast of equalling the English lines. Its construction must have been a costly affair, to judge from the slow process of blasting the carriage way from the hard slates now in progress on the opposite western bank for a rival line. In the cars one realises best the nobility of the river, which forms an additional feature in the landscape. The steep volcanic heights were beautiful in spring, although bare of the vegetation which in summer clothed them in additional loveliness. The snow still lay in patches in the ravines of the grand precipitous sections, which, with the débris of fractured slates forming a *talus* at their base, recalled those of the Rhine, to which, though less rugged and stern, the geology, and therefore the scenery of this region, is somewhat akin.

The historic heights of the Hudson were the scene of many a well-fought battle and noble deed in the glorious days of the Revolution. Treachery was rife also, for on its banks near Tarrytown the gallant and unhappy André was arrested as a British spy, while the more wretched traitor Benedict Arnold took refuge on a British vessel anchored near Fort Independence in mid-stream. But no venerable castles frown in ruin over the broad and stately river, only fine modern mansions; rural townships crowd its banks, and busy manufacturing cities defile its waters, with here and there a long low storehouse of the "Knickerbocker Ice Company," the white-painted paddle transport moored alongside taking the place of the more romantic timber raft of the German river. Still the Hudson, whether flowing tranquilly past the columnar, precipitous, and wood-crowned "Palisades," or widening out into placid lake-like expanses, possesses palpable if indefinable charms of its own. As it winds and narrows through the picturesque "Highlands" the beauty of the scene gradually heightens, and finally culminates when the dim outlines of the purple and shadowy "Catskills," more or less veiled in misty gloom, come into view, and form a majestic background to a pleasing landscape, unsurpassed in softness of out-

line and harmony of colouring by any of the grander and more awe-inspiring scenery of the North and West.

The Hudson River Railroad runs through many of the streets and wharves of Albany, the solemn tolling of the pleasant-toned bell on the locomotive giving the only warning to vehicular and foot passengers. The city is built on hills sloping to the river, is ill-paved and dirty, but many of the avenues are planted with trees, and it is not an unpleasant residence in summer. Five minutes' inordinate jolting in an omnibus over a most atrocious hilly road landed us at the "Kenmore," a new house on the American plan—a fixed daily rate and regular hours for meals.

The "Kenmore" was "run" exclusively by coloured help, for the proprietor was an octroon; and it was very amusing to watch the active, civil, and well-spoken waiters flitting busily about under the garish light of electricity. But for long it was certainly an effort to divest oneself of the idea that they were only disguised as "Christys," and would presently break forth into a sentimental ditty, to the accompaniment of the banjo or the bones. They "Mister" each other ceremoniously, and the dignity and importance expressed in the solemn and portly bearing of the dandified head waiter is beyond description. The professional shoeblack of this establishment was quite a character. This to us necessary branch of hotel service being always relegated to a separate office, official, and fee, the hotel proprietors throughout the United States tersely announce that they will *not* be responsible for boots placed outside the door. He discoursed learnedly to my father on the immensity of space, the influence of science on religion, and the last newly-discovered pyramid, with much unction, energetically refurbishing and refurbishing meanwhile, and pocketing his dime with dignity when at last he thought fit to release his amused patient and auditor.

We soon found our way to State Street and the State Geological Museum, presided over by a very old friend, Professor James Hall, LL.D., who may be truly regarded as the founder of American geology. Contemporary with Murchison, like Barrande of Prague, he forms a link between the old school of geologists when the physical branch was not separated from the study of organic remains, as in the school of to-day. Professor Hall has long held the office of State Geologist of New York, and in that capacity surveyed over a thousand miles on foot in the Appalachian Mountains. In 1842 he accompanied Sir Charles Lyell over some of those beloved sections where he had worked out the sequence of the American Palæozoic rocks, and correlated them as far as possible with the English horizons. His museum corresponds with that of our "Survey" in Jermyn Street, for it illustrates the geological structure of the State of New York, which is exclusively composed of the Azoic, Eozoic, and Silurian, Devonian, and sub-carboniferous divisions of the Palæozoic system. There are no true coal-measures within its limits; these crop out on its western border in the neighbouring State of Pennsylvania.

The geological collection is admirably arranged in ascending stratigraphical order. Illustrated with sections, it shows the student the rocks, localities, and fossils, forming an open book wherein he may read an epitome of the geological history of New York State. The bones of a very fine mastodon, deposited by a melting glacier in a pothole of the ancient bed of the Mohawk river at Cohoes, whence it was disinterred almost perfect, is the gem of the geological gallery, which is too small to contain half the illustrations of so large an area, much of which is highly fossiliferous. In the professor's grounds, therefore, thousands of specimens are stowed away in drawers, alcoves, and outhouses. Here all the rough work of reducing and developing is gone through before lithographing and description is possible, and it is a marvel how the final and monograph stage is reached. Material is here accumulated far in excess, one would imagine, of any one mortal's power to grapple with. Many of the specimens are wonderfully perfect, with shell substance, coloration, and muscular impressions preserved; in some cases the two valves of molluscs can be fitted together as accurately as though they had been just taken from the sea instead of hammered out of the solid Silurian rocks. In the basement of the museum building Dr. John Hall has erected some simple and effective machinery, whereby he cuts and polishes large sections illustrating the structure and mode of growth of compound organisms and the mineral constituents of rocks. The museum also contains collections of the fungi, fishes, reptiles, and birds of New York. Among the latter is the last *wild* turkey captured therein, this noble species being now found no nearer the Eastern coasts than the State of Ohio. For the museum aims at preserving the natural history of the State in the existing period, as well as in bygone epochs, and records the migration of species thence, or their extinction within its borders.

The most magnificent building in Albany, and indeed in New York State, is the new Capitol, which, still unfinished, has been twelve years in process of erection. It is built of white Maine granite in the Renaissance style. Nineteen million dollars have already been expended in connection with this edifice, which it is estimated will cost over twenty-five million dollars (five millions sterling) when completed. The exterior is certainly imposing. One of the inferior staircases is so lavishly decorated in the Moorish style as to be suggestive of the recognised importance of back-stair approaches in politics, but ascent in the elevator seems most popular. The lower legislative chamber in the main corridor contains seats, desks, and the inevitable spittoons ranged in semicircles in front of the Speaker's dais for the accommodation of the 128 annually elected members. Although seated in the luxurious fauteuils immediately behind those of the members, we could not hear a word. The strangers' seats are really in the galleries above, but they cannot be used on account of the bad acoustics of this costly building, in which one would have imagined hearing would have ranked first

in importance. Passing out and crossing a narrow corridor lighted up with the largest and ugliest gilt chandeliers conceivable, we entered the senate, and were conducted to seats at the back of the smaller hall. Most of the thirty-two senators were present voting supplies *en masse* vocally by ayes and noes, and when the numbers were challenged, answering separately from their seats when called upon by name by the clerk of the senate. Both chambers are magnificently carpeted and upholstered, and, in fact, the modest "black benches" of our House of Commons, as a senator somewhat derogatively described them, contrast oddly with the magnificent surroundings of these simple republicans. A good deal of money seems to have been lavished in lining dark corridors with costly marbles which will be visible only by gaslight, and similar eccentricities. The members of the lower house receive payment for a session of a hundred days, any time further occupied in debates being at their own cost, a happy method of avoiding unnecessary obstruction.

Our kind friend and his wife drove us in a four wheeled hooded "Rockaway" through Washington Park, which is pleasantly situated at an elevation giving views of the city and the hills which surround it. The lurid sunset effects, with the orange afterglow reflected through a sombre pine-wood, were very beautiful. In the twilight a forest fire lighted up the recesses of the distant hills where we intended to betake ourselves from the cities and museums on the morrow.

A thirty-five mile run on the Susquehanna Railroad in a Pullman drawing-room car, which rolled worse than the "Gallia," through pretty undulating scenery and fine sections of the Hudson river slate, brought us to Schoharie junction. Here we were transferred to a "one-horse concern," consisting of a locomotive and one car attached, which ran to the village of Schoharie. This railroad, five miles long, is owned by an American of Dutch descent, Mr. J. Vroome. There are only three trains each way daily, and he generally stops them all to have a ride in or out, as his home lies midway between the two termini of the road. As owner, treasurer, and president thereof, he is able to travel free on all the railroads in the United States. The pretty little village of Schoharie, consisting of wooden white-painted villas, with green shutters and verandahs covered with Virginian creepers, lies in a fertile valley between the two ranges of the Helderberg Mountains—a spur of the Catskill range—Schoharie Creek, in reality a decent-sized river, winding placidly through its midst. The valley was scooped out by one of the sidereal glaciers which ran into the main ice-street of New York, scattering boulders, and grinding rock surfaces, and rounding hill-slopes on its path. This area is specially interesting to geologists, for within the radius of a few miles they can trace the successive outcrops of the various deposits composing the "Lower Helderberg" series (corresponding with our Upper Silurian), on which, on the opposite heights, the base of the "Upper Helderberg," our Lower Devonian, is

superimposed. At the base of the lower range the grey Niagara shales, or Wenlock as we should term them, are thinly represented. But they continue and occur in considerable thickness hundreds of miles away in the gorge of the Niagara river. Next come the waterlime beds, used for making hydraulic cement. Then the Helderberg limestone, which yields dark-coloured marbles, the Catskill shales, and at the summit the Upper Pentamerus beds. The ascent was beguiled by hammering out slabs of the so-called tentaculite limestone, full of slender straight fossils (*tentaculites*), believed to be the shells of tubeworms, and picking up weathered-out specimens of corals, brachiopods, and other shells. It was a glorious spring morning; hepaticas and wood-violets perfumed the recesses of a sombre forest of pines and maples; robins, thrushes, wood-doves, and song-sparrows, and dragon-flies of a brilliant green, flitted about in the bright sunshine. The grassy slopes in the peaceful valley below were now and then darkened by fleeting cloud-shadows. The winding creek looked like a silver thread; and on the opposite side a miniature mountain pine-clad range, 1,200 feet high, rose somewhat abruptly, and formed an appropriate background.

But time was limited, and though loth to depart we descended rapidly to "Parrott House," where we dined luxuriously for fifty cents with the appetite of geologists, off barley soup, beef, Indian corn, tomatoes and custard pie, served by a neat and taciturn American help, who seated herself with a book in the corner of the room in the intervals of waiting. This snug little hotel is much frequented by citizens of Albany and New York in the summer, and I can conceive no pleasanter quarters for a geologist. In addition to the usual notice on the doors that "ironing is not permitted in the rooms," a further paragraph ran curtly, "Guests are not allowed in the kitchen," yet the food, plate, and service were superior to that of many more pretentious establishments.

Here a "waggon," as vehicles of many kinds are often indiscriminately termed, was hired, and a first-rate team of bays jolted us merrily through the village and over the wooden bridge across the creek. This structure was roofed in like a barn, but every timber of the flooring was loose, and tilted up noisily as the horses stepped on it. The "corduroy" road up the mountain consisted of a series of hillocks and hollows, the impetus of the descent of one hill carrying the carriage half way up the next; a pause and a jerk, *that* was surmounted, and so on in succession. It wound along by a shelving little precipice past many a tumbling brooklet, and came abruptly to an end at a settler's homestead on the brow of the hill, and outcrop of the friable red "Oriskany sandstone." A sharp ascent on foot led over the famous "caudi-galli" beds, so named from the fossil, presumably a seaweed, which permeates them throughout, and bears a close resemblance to the waving feathers of a cock's tail. These beds, with the overlying Schoharie grits, form the passage, a debatable ground between the Lower Helderberg (Silurian) and the base of the Upper Helderberg, or Lower Devonian series. Seated on a huge pine-log at

the outskirts of the clearing, we could survey the beautiful scene at leisure. Far away to the right rear rose another charming range crowned with Lower Devonian strata, and beyond them the purple summits of the Catskills.

The descent in the waggon was rather tedious, and accompanied by a series of "woa! woa!" and "back! backs!" which soothed the horses more than ourselves. For the off horse not only pulled steadily to one side—luckily for us away from the precipice—but persistently shifted its head-stall. So every five minutes we came to a halt; the driver descended from his perch, leaving the reins thereon, and adjusted the bridle, mounting again to go through the same performance. It was the first time he had driven the team, he explained, for they had only recently been purchased from "Jedge" Somebody, and he had not become acquainted with their temperaments. However, we reached the foot of the range at last, and were driven rapidly up to the village depôt, arriving in Albany at 8 p.m. after a most enjoyable day on the Helderbergs in Schoharie county, New York.

On leaving Albany *viâ* "the Boston and Albany" for Boston, 200 miles to the east, the Hudson and the beautiful outlines of the Catskills are soon lost to view. The scenery becomes tame and characterised chiefly by the stony unproductiveness of the soil. On entering the region of the "Berkshire Hills" the road gradually rises, and passes through a succession of wild slaty ravines strewn with massive boulders, foaming tumultuous streamlets, all features recalling the scenes between Liege and Verviers. From Summit, 1,400 ft. above sea level, the descent into Massachusetts is rapid, and the track is completely shut in by the hills which surround it on all sides, and at the foot of which it winds picturesquely. At Springfield, on the Connecticut river, there was a brief halt, and on returning from the buffet we found the cars shunted, and invaded by fresh passengers, and our seats occupied. This is one of the great drawbacks to the ordinary cars; a Pullman is always locked, and guarded at every halting-place. From this point the scenery was commonplace, the cars hot, crowded, and enlivened by an unusually large percentage of babies, and the visits of the attendant bearing the decanter-stand of iced water, which replaces the cisterns on this road, were very welcome. Seven hours after starting Boston was reached, and, revelling in the luxury of a hack, we were for once reasonably transported, bag and baggage, to the marble portals of the red-brick "Brunswick," one of the finest and most comfortable of American hotels.

Nothing strikes a visitor to Boston more than the number of women officially employed in the public institutions. They preside at the issuing desks of the public library on Boylston Street, which is free to all, and contains 360,000 volumes. Among the special departments is one devoted to the "Ticknor" library of Spanish literature, and another to works on American history. A number of local circulating branches are connected with the main building for the convenience of residents in the suburbs. At any of these any Boston resident over fourteen years of age can

procure one volume and retain it free in his home for eight days. The system works well, the amount levied as fines for undue detention going to the increase of the collections; the losses are insignificant, only 200 volumes being set down as damaged or missing in the last report, although the total number issued exceeded one million and a quarter in that year. Of the 140 members on the staff more than eighty are women.

A lady secretary also receives you at the library of the Boston Society of Natural History, and is thoroughly acquainted with the details of the museum associated therewith. This admirable institution owes its origin fifty-one years ago entirely to the volunteer efforts of business men, who worked unselfishly early and late in forming and arranging the collections gradually accumulated. These are now so extensive as to require the constant attention of a professional staff, presided over by Professor Alpheus Hyatt, a jovial New Englander and stalwart philosopher of the advanced school, who is much occupied in original researches in that difficult and important branch of molluscan physiology—the embryological development of extinct genera of molluscs. The collections are displayed in a fine central hall and several side galleries, on the most modern principles of classification. There is also a lecture-hall and a laboratory connected with the institution.

Through the kindness of a Roxbury resident—a friend of Professor Hall—we had been introduced to Miss Lucretia Crocker, Supervisor of the Natural Science Department of the Boston School Board, who very cordially invited us to be present at a lecture on "Rocks," delivered by Mr. W. O. Crosby in the spacious lecture-hall of the society, before an interesting and interested assemblage of two hundred of the male and female public school teachers of Boston. In front of each auditor was a tray containing specimens of the various rocks corresponding with those used by the lecturer in his very clear demonstration concerning their nature, composition, and method of formation. It was a well-conceived and ably-delivered discourse, one of a series eminently calculated to promote the end in view—that of affording sound instruction in the rudiments of natural science to those who would have to impart it to the rising generation, who will thus imbibe only correct notions at the very outset of their student's career. With teachers thus trained there is no probability of Bostonians growing up in the belief that granite is always the oldest rock, or that a whale is a fish, small fallacies from which otherwise well instructed people on this side of the Atlantic are not always free.

Boston women, proverbially cultured, are certainly unaffectedly devoted to intellectual pursuits. Numerous are the artistic, literary, and scientific clubs, societies, and reunions for the promotion of study at home and in the field, and their aim is not always purely a selfish one. For the members of one ladies' society each take up some special branch of science, correspond with a certain number of fellow-students, and thus help onwards those who perhaps lead an active or a country life far away from intellectual centres, enable them to

share by deputy in the advantages of Boston citizens, and encourage them to persevere in devoting their leisure to the acquirement of scientific knowledge. Nor does marriage interfere with these pursuits, for the charming Bostonians seem able to manage their husbands, families, and households, meet the claims of society, and keep abreast of current literature, as well as pursue one or two branches of science. Pre-eminently "thorough," one recognises them anywhere, and it would be better for the future of America if all American women were as little frivolous and had as much energy. To them the listless, dressy, rocking-chair, confection-consuming and piazza-lounging existence which characterises so many of their opulent fellow-countrywomen would be simply intolerable for a day. The climate of Boston, it is true, is far less enervating than that of many other great cities, but it is by no means without reproach. For the temperature often varies twenty degrees in an hour, and the virulent east winds blow for months in the spring-time. Then, in fact, New England weather is so changeable as to justify Mark Twain's humorous assertion that "it is manufactured by apprentices to gain experience."

In addition to their other virtues, Bostonians are unostentatiously hospitable; to be a friend of their friend ensures a kindly welcome, and our stay was rendered unusually pleasant by many kind attentions. Among others, we were favoured by letters of introduction to some residents in the "Brunswick"—a charming old lady, the sister of the poet N. P. Willis, and her son, Mr. Willis B., who proved a most cultivated and agreeable cicerone. To them we were indebted for a favourable opportunity of hearing the Rev. Phillips Brooks, the portly and popular pastor of Trinity, who is gifted with poetic diction and a stream of original thought which flows so rapidly as almost to exceed his very remarkable powers of rapid utterance. Although a very broad churchman, Mr. Brooks is highly esteemed by all schools of theologians. He was recently begged to fill the office of President of Harvard University, but finally elected to remain among the people who had erected for him the beautiful and spacious edifice from whose broad platform he has always enforced the highest claims of Christian morality. The interior of Trinity is chastely ornate, and the musical element excellent, but not excessive. There is now a ritualistic development in Boston, which, in religious matters, seems undergoing a natural reaction from the coldness of Unitarianism once so predominant.

After the service we encountered the Sutherland party, who in the interval had visited New York, Albany, Philadelphia, Baltimore, Washington, and Richmond. They had arrived in Boston the previous morning, were entertained at a banquet at night, attended Trinity on Sunday morning, and left in the evening by the night mail for Montreal. As they had been travelling director-fashion, with drawing-room, dining, and restaurant cars attached, had their luggage transferred from one road to another without shifting, and all arrangements made for them, their views on

American railroads were naturally more rose-coloured than our own.

One afternoon Mr. Willis B. drove us in his phaeton through the "back lands," once shoals in the back water of the Charles river, but now the most fashionable and opulent quarter of Boston. The suburbs of this lovely city, which is surrounded on three sides by picturesque heights, are very beautiful. For three hours we passed rapidly through a succession of the fine avenues of Brookline and Brighton, which are lined with mansions with spacious and well-kept grounds, often fenced in only by a little hedge of a shrub, so thickset with minute scarlet blossoms as to resemble holly-bushes. As the "rough" element is conspicuous only by its absence in the eastern cities, there is no wanton disfigurement or destruction of private property, and therefore no need for high walls and enclosures. In many cases gardens are unfenced and quite open to the public road, so passers-by can share the contemplation of their beauties with the rightful owners. A large open space for a park has been reserved in this region, occupied, it is difficult to believe, only 300 years ago exclusively by Indians. Near by is a monument erected in honour of the Rev. John Eliot, translator of the Indian Bible, and called the Apostle to the Indians, on one of the spots where he first preached to them in 1646. The old public gardens and common are now situated almost in the heart of the city. They are well laid out and ornamented with monumental records of the triumphs of war and of peace. Among the latter is one dedicated to the discoverers of "ether as an anæsthetic." As this discovery was made simultaneously by two physicians, no name is inscribed thereon; the one word "either," it has been wittily suggested, would amply represent the facts of the case. Near Trinity Church there is a very fine Art Museum, which is opened free twice weekly, and on Sunday afternoons, when it is much frequented. It contains galleries of casts from the modern and antique, examples of the old schools of painting, collections of pottery and Egyptian antiquities. Everywhere throughout Boston the evidences of wealth associated with culture are very striking. Nor are mundane matters neglected, for the streets and home-like red-brick or paved side-walks are admirably kept. Taxation, however, is very heavy, more than two million sterling being now annually expended by the municipality.

Our friends were also kind enough to introduce us to Dr. Philip Warren, who opened his private museum for our inspection—one of the earliest-formed geological collections on the continent. It contains the remains of a huge mastodon, and, what is still more rare, almost a perfect skeleton of that lengthy and serpentine fossil cetacean, the *Zeuglodon*, from the Tertiaries of Alabama. Here also is a sketch taken from life of a great marine monster which was seen by scientific observers in Boston Harbour—certainly the best authenticated and most *vraisemblant* of all the many "sea-serpents." This interesting collection was formed by Boston's famous physician, Dr. Warren, father of the present owner, and son of the patriot

General Joseph Warren, who fell in the momentous struggle at Bunker Hill, Charlestown, where a simple uninscribed and ugly granite obelisk commemorates at once a defeat enclosing the germ of ultimate victory, and the birth of American history.

In the New State House, overlooking the common, there are some touching relics of the glorious revolution—old battle-stained flags borne by Americans and British. Overhead, in unpretentious chambers, the "General Court" or Legislature of Massachusetts hold their session. A debate in the lower house was then in progress, in which the sanitary condition of the basement of the building was described as so bad "as liable to indictment if private property." This statement gave me momentary satisfaction, for I had begun to feel oppressed with the feeling that all was perfection in Boston and its beautiful suburbs.

A very pleasant day was spent at Salem, the home of the well-known naturalist Professor E. S. Morse. This venerable town, the site of the first permanent settlement in Massachusetts, and the scene of that remarkable outbreak of witch persecution in 1692, was once a place of considerable importance in the East Indian trade. Sixteen miles from Boston, it is reached in three-quarters of an hour from the Boston *dépôt* of the Eastern Railroad, which runs along the coast of Nantucket Bay on the right, and on the left by numerous towns separated by brief intervals of barren slopes of metamorphic rocks. On arrival, Professor Morse, brimful of energy, high spirits, and enthusiasm, drove us over to his pretty little white house, built entirely of wood, the dining, drawing-room, and studio opening on to the square hall, all decorated in the Japanese style, and full of curiosities from that country, where he spent three years as Professor of Zoology in the University of Tokio. Living with his charming wife and family entirely among the Japanese, he is quite an enthusiast respecting the amiability and capacity of that interesting people. He has a very fine collection of pottery, containing many specimens of great antiquity, figured in native works, and richer than South Kensington in old Satsuma. But I was better able to appreciate a series of anatomical drawings of the Brachiopoda of the Japanese seas, knowing that our host had seen more of these organisms alive than any other naturalist. In fact it is to him we owe most of our knowledge of their habits of life. In his opinion these humble organisms are worms and not inferior molluscs, a view which he was the first to propound on the American continent with great ability. His investigations of the prehistoric shell mounds of Qmori, which revealed evidences of cannibalism among the people who formed them—a most significant fact, proving the great antiquity of these accumulations, as the Japanese records go back fifteen hundred years and give no hint of such practices—were issued in the first volume of the *Memoirs* of the University of Tokio, illustrated by native artists and printed in English characters at the Japanese printing-office of Nisshusha.

Owing to the liberality of Mr. George Peabody,

who was born at Danvers, near by, Salem possesses two scientific institutions, a natural history library, and collections at the Peabody Academy of Sciences, to which Professor Morse is attached, and a library, East Indian collections, and historical records and relics of the witch persecutions and Puritan intolerance of long ago. Here also is the first church erected in New England, a small square wooden structure, encased in brick,

with a gallery at one end and no means of access thereto. It contains Nathaniel Hawthorne's desk, once in the custom-house at Salem. There is much of interest in this quaint old town, with its wooden side-walks, and our visit came too speedily to an end. We parted regretfully from our kind host and cicerone, grateful to him and his for their warm welcome and a pleasant and brief glimpse of the simple home life of a New England professor.

MR. JONAS WHIFFEN.

A BELIEF that he knew something about a horse was the chief weakness of Mr. Jonas Whiffen. Other weaknesses he had, like the rest of us, but none so complete as this. What he really did understand was cheese. His business as a cheesemonger had grown to be the largest in the large manufacturing town in Lancashire in which he lived, and he had made it himself. He had been, as he said, among cheese all his life, and he had given his mind to cheese. He was fairly skilled in butter, but cheese was his strong point.

Nor had Mr. Whiffen's knowledge come by chance. People who are not in the business may think that if a man has a good eye, a keen taste, and a quick sense of smell, he cannot help being a good judge of cheese. They may even think that if they had been apprenticed to the trade themselves, instead of having been sent to college or into a solicitor's office, they would have been as well able to judge cheese to a shilling a hundred-weight as Mr. Whiffen was.

But it does not follow. They might very possibly have come out of their apprenticeship knowing as little about cheese as they knew about Latin and Greek when they left college, or as they knew about law when they were out of their articles.

A man may know "Stilton," "Cheddar," and "Round Dutch" well enough when he sees them, and at the same time he may know no more about their real value than a fly knows about double rule of three when he crawls over the pages of an arithmetic-book.

My own belief, indeed, is that Mr. Jonas Whiffen would have been much more likely to have taken a first class at the University or a first prize in the Incorporated Law Society's examination, if he had been put to college or the law, than some of those persons who think that a successful cheesemonger who does not need brains would ever have been able to judge the true value of a dairy of "Cheshire."

Mr. Whiffen had natural gifts, no doubt, but he had greatly improved them by thought and attention and care. A natural gift, indeed, in the direction of cheese seemed to belong to Mr. Whiffen's family. He had two brothers somewhat older than himself who, when young, had emigrated to America, and had gone into partnership as farmers. Singularly enough, both these

brothers so liked cheese that they had studied it and done well by it—consigning to Jonas, from time to time, an article of such excellent quality that it was often hard even for him to distinguish it from "best Cheddar." Jonas and his brothers had an only sister, who died in her childhood, though, from certain indications which she gave before she died, there seems little reason to doubt that had she lived she, too, would have liked cheese as her brothers did.

Jonas himself had a remarkably quick sense of taste, but having from the first determined to master "cheese," he seldom risked his taste on matters out of the business. Of beer he was a very imperfect judge, and of the taste of spirits he was entirely ignorant. Apprenticed at an early age in a small shop in a country village, he never lost a chance of adding to his knowledge. He would watch with the most eager attention the signs of satisfaction or dissatisfaction shown by customers as they tasted the different samples of cheese offered for their judgment. If he noticed any particular liking or disliking on the part of the tasters he would taste for himself, and determine as well as he could on what the approval or disapproval of the particular sample was based. Strong, mild, old, new, rich, poor—young Jonas Whiffen would analyse and register on his palate, comparing his own impressions with those of his customers.

In after life he often used to say that his first idea of the real nature of one "brand" which his master kept, was gathered from the marvellous puckering of all the muscles of an old woman's face, as she rolled the pungent morsel on her tongue. The very same day after hours when he had time for the reflection necessary before forming a judgment, he tasted that cheese himself; nor was it till after supper that night, and breakfast and dinner the next day, that he got rid of the effects of his business-like curiosity. The old woman's face he never forgot, nor the cheese at which she made it. But young Jonas, without knowing it, was almost scientific in the study of his favourite subject. He used to take especial notice of the effect which weather and temperature had on different "makes." He knew which cellars were best suited for storing particular kinds of cheese; in short, by close observation, and by the help of shrewd common sense, and a good memory, he gradually learnt so much about cheese,

that even before he was out of his time his master used not unfrequently to consult him and to be guided by his advice in this branch of his business.

I mention these particulars mainly to show that superior judgment in cheese, like superior judgment in poetry, politics, law, or anything else, needs study, and thought, and perseverance, as well as natural power. When people saw Mr. Jonas Whiffen in a farmer's cheese-room—for he was his own buyer—and heard him say almost at a glance, "Sixpence-farthing for all you have got," they thought, perhaps, but little of the many years during which he had been carefully noticing, tasting, and handling. They had not seen him behind the counter as a stripling cutting out pounds and two pounds, studying his customers' tastes, and always having his wits about him. They had not watched him calculating with a keen eye, on taking in fresh consignments, how far his employer had bought money's worth or not. These foundations of his quick judgment were, as we may say, underground and out of sight, and people often set down his offers as merely clever guesses, when in reality they were the simple result of hardly-earned knowledge and experience.

Still, as we have already stated, Mr. Whiffen had one great weakness, and that was "horses." This weakness, moreover, was all the more remarkable, in that for many years he could not bear the mere mention of a horse. Soon after he was apprenticed, a travelling menagerie came through the village, and with the menagerie a separate exhibition of a wonderful pony. As a fact, this pony served the double purpose of helping to draw the caravan by day and the public by night; but for all this he was described on a large canvas in very large letters as "One of the most marvellous animals in existence—viz., a small horse, handsome and well-proportioned, but, wonderful to say, having his head where his tail ought to be, and his tail where his head ought to be." Young Jonas, not well able to afford sixpence for the great show, was obliged to content himself with one of the smaller exhibitions, of which there were several. He was half afraid of being known to have gone into a show at all, but at last his curiosity overcame his shyness, and putting down his twopence like a man, he was admitted into the booth in which the mysterious animal was to be seen. A curtain was hanging across the booth to increase the mystery; but in due time the curtain was drawn back, and there stood revealed to Jonas's unbelieving eyes a poor half-starved pony turned round in its stall, and rubbing its tail against the manger. Unfortunately for himself, Jonas had been seen going into the booth by some of the village boys, who had themselves been victimised, and accordingly, when he came out, and for months afterwards, poor Jonas was so tormented about the wonderful horse that, till he left the village when he was out of his time, he heartily hated the very sight of a horse. As soon, however, as he went into business for himself, he was obliged to keep a horse. He found, moreover, after a while, that a good horse was a

kind of advertisement for its owner. His cheese-buying expeditions took him into various hunting districts, in which, next to cheese, horses were the main subject of conversation among the farmers with whom he dealt. Not liking to be left behind in the talk, he listened carefully, picked up a good many ideas about horses, stored away in his memory the wonderful things which his friends had done in the hunting-field, and carefully noted the prices which their horses fetched. In short, as far as conversation went, Mr. Jonas Whiffen in the course of a year or two began to be looked upon as a sort of authority in horseflesh. It cannot be denied that he felt flattered by this recognition of his ability in a new line, and farmers finding that he was capable of being flattered, did not fail to try, at any rate, to keep him in good-humour as a buyer of their cheese by listening with the greatest show of respect to whatever he might say about horses.

Here, however, they were at fault. Mr. Whiffen was open to flattery, but not when he was about business. The sight of a cheese—the very sound of the word "cheese"—seemed at once to affect his whole nature, and to brace him up to the matter in hand. Till cheese was done with, it is only fair to Mr. Whiffen's memory to say that horses were "nowhere." One thing at a time was a favourite and much-observed doctrine of our worthy friend. Indeed, Mr. Whiffen's conduct in life was principally guided by about half a dozen rules, gathered, as he often owned, mainly from the copy slips which he used at school. Education, in any true sense of the word, he had never had, and he possessed but one accomplishment—viz., good handwriting. History, geography, and arithmetic, beyond the first four rules, were as nothing to him. From his copy-books he had learnt a few facts, but they were of no use to him in his business. "Xantippe, the wife of Socrates," was perfectly familiar to him, not as a celebrated character of antiquity, but as the first word of a large-hand copy beginning with "X"; and who Socrates was, or what sort of a wife Xantippe made him, did not concern Jonas, and he never inquired. One principle, however, to which Mr. Whiffen attributed no small share of his success in life was, as he always said, specially impressed upon him by a curious accident. For two days together he was unfortunate enough to blot his copy-book in school, and on both days he had to stay in at the dinner-hour and write out the copy twenty times on his slate. The copy happened to be "What is worth doing at all is worth doing well," and the forty extra repetitions of this maxim so fixed it in his mind that in his business, at any rate, he never forgot it, either in theory or in practice.

All this makes the fact more remarkable that in the particular matter of horses Mr. Whiffen's natural sense, as well as his acquired wisdom, seemed to desert him. In the first place, however, Mr. Whiffen did not really care for a horse, though he greatly coveted the reputation of knowing about horses. His heart was not in horses as it was in cheese, and consequently he did not set about studying them as carefully as he had

studied his real business. He had picked up his knowledge at second-hand, and, as a fact, instead of really knowing, he only thought that he knew. In mere talk this did not matter so much; he shone brilliantly in conversation, though with only a borrowed light. But when he began to pit his judgment—such as it was—practically against the judgment of those who really did know a good horse from a bad one, he was sadly at fault. I recollect seeing him once on a great, loose, raw-boned animal, which he had just bought, and which he fully believed to be a bargain. He was speaking to a friend, who happened to smile as he looked the horse over. "Now, don't begin to pull him to pieces all at once," said Mr. Whiffen. "No, Jonas; indeed I won't," said his friend, seriously; "I would far sooner put him together for you if I could!" Mr. Whiffen, I suppose, did not see anything in his friend's answer—at all events, he took no notice, but began to enlarge on the merits of his new purchase. Poor Jonas was, of course, terribly laughed at when he was taken in about horses, but he never seemed able to set his failures down to the right cause—viz., "doing in an article he didn't understand," as his commercial friends put it, and he was always ready to fall into the next trap which lay in his way.

On one occasion he was specially unlucky in respect of credit for his knowledge. He had gone to the stables of a dealer in a large way of business to buy a horse. In the first stable into which he went he saw a horse which he liked, and which the dealer assured him would suit him exactly. Nor did Mr. Whiffen object to the price, £40. He must need, however, show off a little of his knowledge, so he discovered that the animal's tail was not set on quite as it should be, that he was a little heavy on his fore legs, and the like. "All right, sir," said the dealer; "I've plenty more for you to choose from." Mr. Whiffen and the dealer moved on from stable to stable, till, in about half an hour's time, they came to a stall, where Mr. Whiffen exclaimed, "Ah! this is more my sort!" "Capital sound horse," said the dealer. "Something after the fashion of the one we saw first," said Mr. Whiffen. "About the same height and much the same colour," replied the dealer. "What do you want for him?" asked Mr. Whiffen. "Fifty guineas," said the dealer. "Make it pounds," said Mr. Whiffen, "and I'll take the horse;" and the bargain was struck. Now Mr. Whiffen's coachman, when he came to fetch the horse away, happened to hear from one of the stable-boys that the horse was not only something after the fashion of the one which Mr. Whiffen had seen first, but that it was the very same animal. It had simply been shifted from the first stable to the last, and had been taught in the meanwhile, as dealers very well know how to teach a horse, to hold up its tail and to look lively on its legs, and for these quickly-acquired accomplishments Mr. Whiffen had in his innocence gladly paid an extra ten pounds.

In this case he got, it is true, a fairly good horse, though he need not have given quite so much for it. On another occasion he was not so fortunate. He had seen an advertisement of a fine pair of carriage-horses for sale, which were

standing at the stables of an hotel in Manchester. He, accordingly, took the train, found the hotel and the horses, the appearance of which pleased him much. He objected, however, to the price. While he was bargaining two persons came into the stable, who, seeing what was going on, came up to the owner of the horses and demanded them, saying that they had had the offer of them at the same price, and that they would take them. The owner said he was very sorry, but that he had not understood that there had been any real intention of buying, and that matters had gone so far with the other gentleman that, if he liked to have the horses at the price, the offer to him must stand good. Mr. Whiffen, struck by the anxiety of his competitors to buy the horses, determined at once to take them himself, and forthwith wrote a cheque for the money. He was to have them a week on trial, and if at the end of the time he did not like them, he was to return them and have his money back. Having got the horses safely home, he speedily had them out to see what they were like. The coachman's dismay was complete, and his verdict one of utter and unmistakeable condemnation. The horses, showy as they were, were unsound, and were not worth £10 apiece. Poor Mr. Whiffen, without a moment's delay, hurried down to the station, took the first train to Manchester, and soon finding the proprietor of the hotel, asked him, in the greatest anxiety, where the men were who had the horses for sale in his stables. "Oh, sir," replied the hotel-keeper, "they were a regular set of rogues. They were off directly they had sold their horses." "Rogues, sir, rogues!" indignantly exclaimed Mr. Whiffen; "if you knew they were rogues why didn't you give me a hint?" "Give you a hint, sir," said the hotel-keeper; "I beg your pardon, sir; I'm very sorry, sir, but I thought you were one of the gang!"

The consolation, I own, was small, but, alas! it was all that Mr. Jonas Whiffen got on that occasion. Thanks to his skill in his own proper business, these and many similar troubles in horseflesh damaged Mr. Whiffen's dignity far more than his pocket. But wounded dignity is hard to bear for any length of time, and the good-humoured banter about his horse experiences, which met him on every hand, became rather trying. Moreover, for once even cheese turned against him. In the warehouse, one day, a great seventy-pound "Cheshire" slipped and fell on to his foot, seriously bruising it, and confining him to the house for a month. During this enforced abstinence from work, Mr. Whiffen meditated a good deal on his past life, and we have reason to believe that he came to sundry very carefully pondered and very wise conclusions. One of these conclusions certainly was, that if he had not studied cheese very much more carefully and thoroughly than he had studied horses, he should never have done what he had done in the way of business; and another conclusion that if he had studied horses as carefully and as thoroughly as he had studied cheese, he should never have suffered what he had suffered in the way of pleasure.

J. COCKER EGERTON.

WILLIAM JACKSON, OF EXETER, MUSICIAN.

AN AUTOBIOGRAPHY.

IV.

SET off August 17th for Lyons in the diligence, through a dead, uninteresting country, not one tree nor anything (but a reach in the river) worth notice. The weather cold, hedges of grapes green; breakfast at Soigni; passed the Yonne over a fine bridge of seven elliptic arches. Dined at Auxerre. The country for the last thirty miles little else than vineyards; it looks best where patches of corn, kidney beans, hemp, and vines run up the side of a hill, and walnut-trees are scattered about. The weather was so cold that we were glad to wear our greatcoats and shut the windows of our carriage, although there were eight persons crammed together in it. It is now past the middle of August, yet the grapes in the vineyards are no bigger than peas; and, as the weather is already cold, when or how are they to ripen? I suppose there must be a few hours in the middle of an autumnal day when the heat is extraordinary.

One of my objects in travelling was to see mountains. I had this day a very distant view of two in the Nivernois, which just peeped over a near ridge.

All the way from Paris hither nothing but cultivation of some sort or other; no waste land, but the most unpicturesque country I ever saw. Every tree, walnut excepted, polled bare; passed commons for the first time near Autun, but of small extent. I see by the map that this is a tract of high land from whence the rivers run different ways. Saw Indian corn for the first time. The people for the last thirty miles in sabots; the girls wear them finely carved and ornamented with ribbons, and moved with greater ease than could be expected. At Maçon the houses were beginning to take the beautiful low roof, as in Italy. After some time the mountains of Beaujolois open finely, and present various beautiful and sublime forms.

The last four miles before one enters Lyons is (to a painter) one of the finest sights in the world; such an assemblage of hills, woods, buildings, distant mountains, castles realising all you have read or seen in pictures of the romantic! The evening gave all a warm light and depth of shadow superior to anything I ever saw.

On quitting the boat at Lyons your attention is engaged by a castle, on a high, precipitous rock, on your right hand. This is "Pierre Encise," a prison mentioned in the memoirs of a Protestant, which, of course, made it interesting to me. In some places the houses rise out of the water, as in Venice.

From the banks of the Rhone was my first view of the Alps. Over a flat of about twenty miles extent appear the Alps, though there is a great vacancy of country between this flat and the

Alps, which are forty leagues distant. The outline is more grand than can be imagined. The rolling of the clouds, the glaciers down the sides, and astonishing eminences, present such views as cannot be described. By the assistance of a telescope I had a perfect view of grand and romantic lines and forms. Having never seen any objects at such a distance—and *such* objects I had no chance of ever seeing again—I gazed and studied them over and over, determined, if possible, to fix them on my mind for ever, and I hope I have succeeded. It is worth remarking that after the common range was melted into the horizon, the Alps seemed to rise from a base of air; in fact, from the rotundity of the earth, there must be some leagues of space lost. The inner part of Lyons, some very few streets excepted, is narrower, darker, and worse than Paris. The paper windows have a most beggarly effect. No carpets anywhere but in the churches on fête-days. The floors brick; never washed, but rubbed in the better houses.

The cloisters of the Chartreux are miserably scratched and defaced. I was ashamed to see it, chiefly occasioned by my countrymen's ambition of leaving their name behind them.

From the hill of Notre Dame de Founure is the same view as from the Chartreux, but the situation is at least as high again. The town and country appear as in a map. Mont Blanc distinctly perceived, although a hundred and fifty miles distant. An avenue of two miles in length conducts you to the junction of the Rhone and the Soane. It is a very noble sight. At the point of conflux the former river seems to take up the latter and run away with it! By the side of the Soane is a hill, all sprinkled over with villas, little woods, groves, arches supporting gardens, and vineyards,—altogether a scene of fairyland. (Cream cheese better than at Bath!) I saw some pictures in a gentleman's house, and a cabinet of natural history. I think this is the fourth I have seen in France. I saw but one lamp in Lyons!

Friday, August 26th.—Set off from Lyons at five in the morning. Mulberry and walnut-trees growing by the side of the road, which is rough, and, for France, very narrow. All the common people bare-legged and bare-footed, their toes and feet bound up with rags on account of cuts.

The country improves in beauty to Tour de Pin. Arrived at Beauvoisin—a small but very rapid river, over which is a noble arch, the boundary between France and Savoy. Ascend the first pass of the mountains. Got to Estrelles through delightful meadows and vineyards between mountains. After dinner set off on horseback for the Grande Chartreuse. The first hour and a

half you approach the mountains; the last hour and a half you go through them. A wooden bridge is passed, where are two wonderful fine subjects for pictures. The assemblage of rocks, water, woods, bridges, the supported road, and a thousand other indescribable circumstances, make this excursion the most wonderful of my life! On the left is a torrent of considerable depth below, and on the right the rock comes so near your head that at times you must crouch down on the saddle.

By-and-by you go through a gateway which marks the entrance of the holy territory, and now the rock ascends on your left, and descends on your right. By continuing this road we came to the convent, which has nothing of Gothic grandeur, or of any other sort, about it. We were conducted into a hall on the right hand of the court—just such a room as is usually found in a farmhouse, and so furnished. The coadjutor came to us—a man not exceeding thirty-five years of age, and remarkably fat and lusty. There were two Frenchmen in company, of whom he was very inquisitive of what was going on in the world. After ordering a good fire—which was very acceptable—he left us to ourselves. We had a *maigre* supper, and retired to rest. The furniture of my room was a table, a chair, and narrow bedstead; coarse, though clean sheets. The first part of the night was employed in listening to real and perhaps fancied sounds, and in passing from thought to thought on such subjects as the place naturally inspired; but sleep at last came, which was tranquil and refreshing.

In the morning I walked out with my drawing-book and made sketches. I ascended between mountains for a long time—a continuation of the same scenery, vast woods of firs, beeches, and sycamores. Came to St. Bruno's Chapel and Hermitage. On approaching the entrance I heard a bolt shut on the inside—perhaps the hermit was forbidden the sight as well as the conversation of a stranger. As I stopped to take as many remembrances as possible, I could not extend my walk as far as I wished. On examining the highest Pic, which appears behind the convent in the distance, with a telescope, I was surprised to see it all in strata and broken short, evident marks of its being once part of a country that had been formed by the settlement of water, and lifted by violence from its original situation. Many of the rocks near me had sea-shells in them, one of which I preserved. I noticed several plants I had never before seen, indigenous, among others the raspberry. It is no uncommon thing for a large fragment of rock to get loose from the summit of a mountain and break its way with increasing velocity through the woods, and forcing all before it, come thundering down into the vale below! Several of these tracts came in our way where large trees were shivered like twigs. Sometimes, while looking at mountains in appearance not very distant, a cloud that seemed far behind would sail on and pass before them, the edges as well defined as if in the atmosphere. As these were the first high mountains I ever saw they have impressed an image of sublimity never to be forgotten.

The greater part of the way back to Echelles I walked that I might draw such places as I wished to remember.

Started off for Chamberi, passed through a cut in the mountains, made by the Duke of Savoy, called the Grotto—a very great work—and afterwards came to the Pas d'Echelles. All the rocks I have yet seen are in strata of a grey tint, and have shells in them.

The rooms where we slept at Chamberi the best I have seen in any inn on the Continent; the beds good, sheets white and fine. Beggars have increased since we left Paris in a geometrical proportion. Took a view of Chamberi from a hill in the neighbourhood, very picturesque and grand. The mountain of Grenier seems to overhang the town, but it is three leagues from it. There is a beautiful plain between, sprinkled with houses and tufts of trees; on the other side is a great mountainous ridge, with a lake. The valleys are rich and fertile, and all the farms are fine. Notwithstanding the wretchedness of the town, I do not wonder that many of our countrymen live here. Set off for Aiguebelle at once, through the most beautiful country I ever saw; bounded by stupendous mountains, the trees untouched, the grass smooth as velvet. Crossed the Isere at Montmelan; the view from the bridge is a scene not to be paralleled; all the pictures of the greatest masters fall so low beneath it that they are not to be mentioned—neither words nor pencil can do justice to it. It was on the left-hand looking up the river, and the time was towards evening. I saw at a distance the snowy tops of mountains, and on the right a mountain of the very form Gaspar Poussin was so fond of. It was so considerable and so distant, though near in appearance, that in travelling ten miles it scarce varied its form. Besides walnut-trees, I observed sycamores, beeches, and elms, but very few oaks. Box very plenty in the hedges, and many plants unknown to me.

Some odd courses and crossing of strata in the mountains, particularly towards the tops. From Aiguebelle to La Chambre a painter's country! Still finer in the neighbourhood of St. Michel. All the road from Chamberi hither is like driving through gentlemen's grounds, laid out amid the grandest scenes of nature. The strata in some places quite perpendicular. According to the received ideas of their formation, they were originally horizontal. Of course, some great force from below must have given them their present position.

August 30th.—One of the hottest days I ever felt, but the morning and evening were frosty. Grapes still green, and no fruit at the auberge but bad plums and pears. Many plants unknown (observe I am no botanist). From St. Michel to Modune the road ascends, some few dips of no consequence excepted. The river accompanies it all the way, rattling down the vale at a great rate.

I have observed that if a church stands on a hill it is generally dedicated to St. Michael. To mention a few—St. Michael's Mount in Cornwall; Mont St. Michael in Normandy; Mont St. Michael in Piedmont; St. Michael's Mount in Boroughbridge, Somerset; St. Michael's near

Thionville; St. Michael's Church, Cornhill, London; St. Michael's in Bristol; St. Michael's in Bath; and this catalogue might be much increased.

Cross some torrents which form cascades down the sides of the mountains, but none considerable. Nothing can be more unpicturesque than these cascades. In a long course of time they have brought down from above earth and fragments of stone, over which they have made a smooth channel, and run through it with no better effect than water from the spout of a house.

Purple crocuses, and dark purple thistle, much darker than those in England. There was a pretty, and, to me, a new sort of mallows. Many miles of the road by the side of precipices, overhanging the river, but none in appearance above two hundred feet high. No doubt they ascend in making the road as little as possible. Some mountains much pointed, and covered with snow in patches. Vast fragments have rolled down the mountains, in some places perfectly obstructing the road. They blow them in pieces with gunpowder, and recover the passage again. The road is very good, but in some places narrow and dangerous.

Arrived at Lannebourg. Glaciers at a distance, easily made out by a telescope, all in waves. More precipices, and higher. The colouring of the distant mountains of the richest purple, with a warm light above. All the villages have a picturesque appearance from without, but within—horrible! Saw some goitres. Some of the mountains are pudding-stone on a large scale; now and then white marble or alabaster occurs. There is a plant with a leaf like a cherry, tree and berries like the mountain-ash; other plants unknown to me.

September 1st.—Ascended Mont Cenis, which is not so high as I expected; but the fact is that all the way from Isere has been, for the most part, a gradual ascent to Lannebourg, perhaps half the height of the whole. Near part of the summit where the road passes is a beautiful lake, and beyond it a mountain of a truly grand form, which is reflected in the lake. The lake is of various tints—deep blue, green, and purple, owing to its different depths and surrounding circumstances. The ground near the road is at present much broken into deep pits. Passed by the Hospice, and breakfasted at the auberge near the descent. Descended on chairs. Met with some English ladies and gentlemen on a party of pleasure. The first setting-off is very steep, by the side of a noble cascade, the discharge of the lake. It falls beautifully, broken into a rocky amphitheatre. Here you rest a few moments to survey the scene. There is nothing you would wish to be altered except the fences by the side of the cascade, which very much hurt the appearance; they are necessary to prevent accidents in passing the precipice. After crossing the water we descend more rapidly than before, over zigzags always as steep, and sometimes more so, than a broken staircase. The view all the way is of mountains of stupendous size, with clouds sailing before them. The road is more broken and rough than

can be conceived, but the porters descend without one false step. Novalesse seems the bottom of the mountain, but you descend for the next five miles and a half (in your carriage). Pass by a fine ruin of an ancient castle on an insulated rock, and afterwards a convent of St. Michael upon a break of a mountain. The grapes in festoons look very pleasant—standard peaches, mulberries, and walnuts. A fine, fertile, pleasant, and picturesque country! Villages much better than on the other side of the mountain. Oxen were drawing by the horns, thought by some the way by which they exert most strength. I believe not, as they are unwilling to have their horns touched, which perhaps communicates a jarring sensation to the head. The shoulders are certainly better calculated to resist pressure. Slept at Ambroise; set off, September 2nd, for Turin. Castles and convents on the points of the hills. In an avenue leading from Rivoli was an enclosure where *animal* (or rather, vegetable) *magnetism* was performing to about a hundred patients. A tree had ropes fastened to it in all directions, and the other end to the persons magnetised. Two or three of the women seemed asleep; their operator said they were "en crise."

The Eddystone Light.—The distance from Plymouth, and the impossibility of erecting machinery on the site, precluded the use of gas or electricity, and therefore the lighting by oil lamps was adopted. For the main light these lamps are two in number, each having six concentric wicks, and giving an illumination equal to that of 722 standard candles. The two lamps are placed one 6ft. 6in. above the other, and the intention is that in clear weather one only, and in thick weather both, are to be used. The elevation of the light is 130ft. above high water, instead of 72ft., as in Smeaton's lantern, and the range will thus be increased from 14 to about 17½ nautical miles, so as just to overlap the range of the new electrical lights at the Lizard. The character of the light is also to be changed, and the Eddystone is for the future to give a white double-flashing half-minute light, showing two successive flashes of two and a half seconds' duration, divided by an eclipse of about four seconds, the second flash being followed by an eclipse of about twenty-one seconds. A white subsidiary light will also be shown from a window in the lighthouse below the flashing light to mark the hand deeps. This will extend over a sector of 16 deg. from N., 32 deg. W. to N., 48 deg. W. A large bell will be sounded during foggy weather twice in quick succession every half minute, thus assimilating the character of the sound signal to that of the light. The bells for this purpose are two in number. They are suspended just at the level of the cornice, and are to be worked in time of need by the same clockwork which ordinarily provides for the revolutions of the lantern. The upper part of Smeaton's tower, when it is superseded by the new structure, is not to be left at the mercy of the winds and waves, which, sooner or later, would bring it to inevitable destruction. It is to be taken down and rebuilt upon the Hoe at Plymouth, the stump alone remaining upon its original place on the reef.

An Insurrectionary Bell.—Tobolsk has some handsome churches, and a cathedral, near which is the famous bell from Uglitch that was exiled by Boris Gudonoff because it gave signal to the insurrectionists. On their being quelled, the unfortunate bell was deposed, had two of its ears broken off, was publicly flogged, and sent to Siberia, and forbidden for ever to ring again. But the ban has since been removed, and it now is hung, not in a belfry, but alone, and assists in calling the people to church.—*Lansdell's "Siberia."*

ELECTRICITY AND ITS USES.

VI.—THE ELECTRIC LIGHT.

THE electric light was first discovered by Sir Humphrey Davy in the year 1800, and for the last fifty years or more electricians have tried to make it of practical service to the world. Their efforts, however, were not very successful, because the source of electricity they employed was the voltaic battery. The current from such a source is not steady enough, and, moreover, a very large and cumbrous battery is required. Recent improvements of the magneto-electric generator of electricity have, however, enabled them to procure a constant current of electricity by means of mechanical power, and led to that development of the electric light which is the topic of the day.

All magneto-electric generators, whatever their peculiar forms may be, are based upon the great discovery of Faraday, that if a closed wire or conducting ring is moved across a magnetic space a current of electricity is generated in the wire. A magneto-electric generator is simply the best apparatus that can be devised for applying this principle to the production of an electric current. A magnetic space is provided between the poles of two powerful magnets, and coils of wire are caused to traverse this magnetic space in such a way as to excite a current in them. The stronger the magnetism of the space, the longer the wire, and the quicker it is moved the stronger will be the current excited. Therefore, the aim of inventors is to construct their machines with powerful magnets and coils of wire having many turns, and to rapidly rotate these coils through the magnetic "field" by mounting them on an axle driven at a rapid rate by means of a pulley and a running belt from some steam-engine or other motor. Now as each coil or bobbin of wire passes between the poles of the magnet, a transient current is generated in it; but as there are a number of bobbins rapidly following each other, each with its transient current, the joint effect of the whole is a practically continuous current. By means of a collecting device termed a "commutator," these parcel currents are gathered up one after another and led away as one steady current.

In the magneto-electric generator the magnets are of steel permanently magnetised; but a more powerful magnetic field can be obtained by employing electro-magnets, or cores of soft iron encircled with coils of insulated wire. To excite these magnets, however, a current of electricity is required to circulate in the coils surrounding the cores. This current may either be obtained from a supplementary generator, or it may be derived from the coils of the machine itself, for there is always enough "residual" or left magnetism in the core of the electro-magnets to form a weak magnetic field, which will excite feeble currents in the coils as they are driven through it. These feeble currents, diverted into the electro-magnet, help to excite it still more and strengthen the

magnetic field. The result is yet stronger currents in the coil, which in turn excite still stronger magnetism in the field, and thus, by a reciprocal process of give and take the electro-magnetism is built up to a high degree of intensity, and a powerful current is generated in the coils. Part of this powerful current can be led away by the commutators, for some external purpose, leaving part to feed the electro-magnets; or the whole current after it has fed the electro-magnets can be led away for other uses, such as the production of light in an electric lamp.

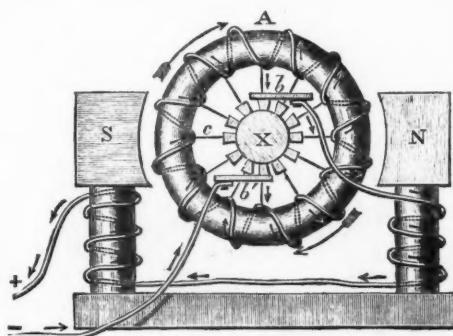


FIG. 1.

Fig. 1 is a skeleton diagram of a generator of this kind drawn by Professor Sylvanus P. Thompson, of Bristol, and it explains the action of the Gramme, Brush, and other machines. Here *x* and *s* are the soft iron pole pieces of the two electro-magnets, between which the armature (*A*) revolves. This armature consists of a ring or "core" of soft iron wound with coils of wire, but for the sake of simplicity only twelve turns are shown, all the turns being in one circuit, and each of them connected by a wire to a metal bar of the commutator (*c*), carried by, but insulated from, the axle (*x*) of the armature. Two metal brushes (*b* *b'*) rub on these bars as they rotate past them and tap the current generated in the coils as the armature revolves. It will be seen that one of the brushes (*b*) is connected by wire to the coils of one of the electro-magnets, the other brush being connected to one wire running to the lamp, while the other electro-magnet is connected to the other wire running to the lamp. Now, as the armature is rotated from left to right, in the direction of the large arrow (*s*), currents of electricity are generated in its coils in the direction of the small arrows, and there being collected by the brushes, pass through the electro-magnets, heightening their inductive power, and then flow out to the electric lamps.

One of the best dynamo-electric generators is that of M. Gramme, shown in Fig. 2. It consists of two powerful electro-magnets (M M') and (M' M'), furnishing a strong magnetic field between the poles (N S). In this space a series of coils of wire (A), wound on an iron ring or hoop, and technically called an "armature," are mounted on an axle and rapidly rotated by a belt, from a motor running on the pulley (P). The currents thus generated in the coils are led to a series of copper bars set round the axle at c , and a pair of metal brushes (b b) rub upon these bars and carry off the current as the axle revolves. Each pair of bars as it passes the brushes delivers up its charge of current, and these successive charges make up the continuous current which is led from the brushes by the conducting wires to the lamps.

Another excellent machine of a different type is that of Messrs. Siemens Brothers, exhibited in Fig. 3. There M and M' are the electro-

pulses are led away by a commutator to the different electric lamps. In one form of this machine, made by M. Lontin, there are twenty-four electro-magnets on the armature and twenty-four coils on the surrounding frame.

Electric lamps are of two well-marked kinds; the "arc" lamp and the "incandescent" lamp. The arc light was first observed by Davy when he took two pieces of carbon connected to the opposite poles of a voltaic battery and held them so close that they nearly touched each other. To his surprise a brilliant arch or "arc" of white light sprang across the air gap between the two carbons, and so intense was the temperature of the light that gold, platinum, and other refractory metals, fused and ran like wax when they were dipped into it. The explanation of the arc light is that the electric energy streaming across the open space from one carbon to another tears away the particles from the carbon connected to the positive pole of the generator and heats them up to

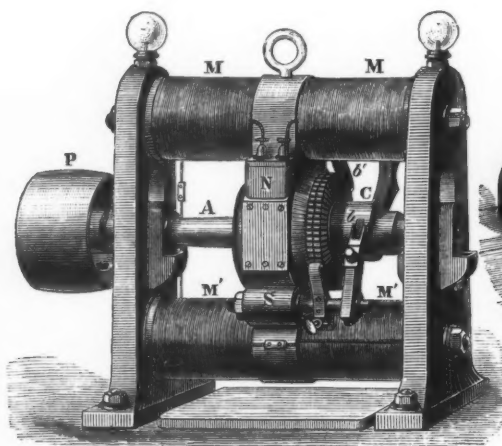


FIG. 2.

magnets, A is the revolving armature in which the currents are generated; c are the commutator bars, and b one of the two brushes for collecting the currents. In this machine the two magnetic poles are curving iron plates (N S), and the coils of the armature are wound longitudinally along the axis.

The machine of Mr. Brush, employed by the Anglo-American Brush Company, is similar in appearance to the Siemens machine, but the armature consists of a soft iron ring, with a series of bobbins of wire threaded on it, as in the "ring" of Gramme. There are many other magneto-electric as well as dynamo-electric generators, but they are all varieties of these types, if we except the Lontin machine, which is an inversion of the ordinary machine. In it the electro-magnets are mounted on an axle and the coils in which the currents are induced are set round it, so that when the magnets revolve past the coils, there are pulses of current excited in the coils. These

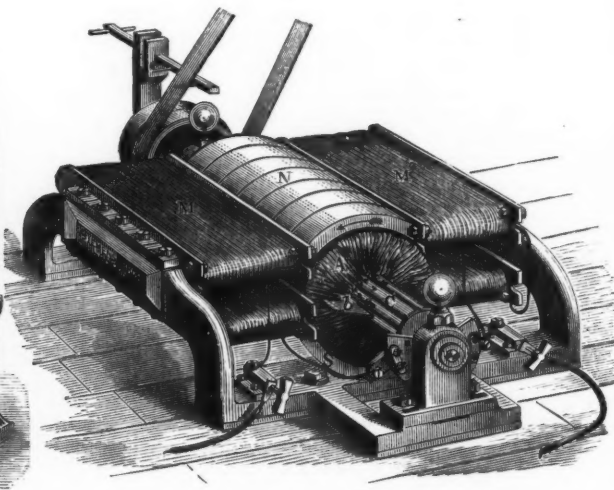


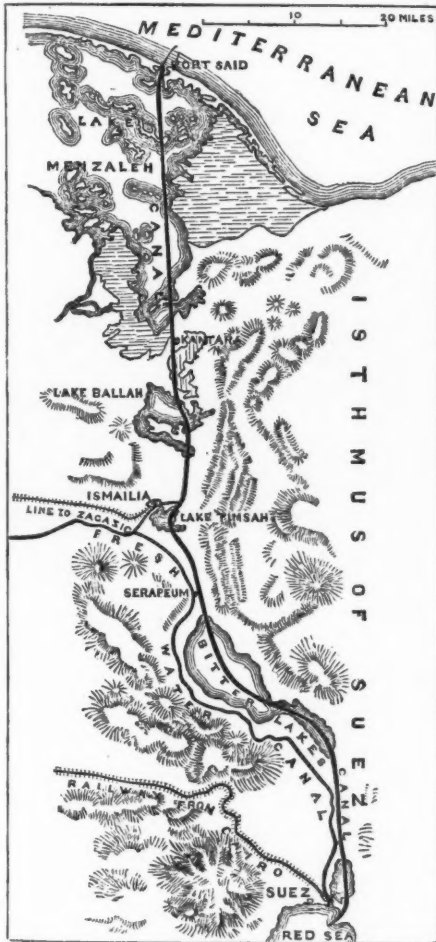
FIG. 3.

a very high temperature, the highest known on earth, thereby rendering them intensely luminous.

The incandescent light, on the other hand, is produced by heating up a *continuous solid conductor* to a very high temperature by passing the current through it; and it was observed soon after the invention of the voltaic battery, and generally shown by connecting the poles of a battery through a piece of fine platinum wire. As distinguished from the "arc" light, it is absolutely steady, thanks to the solid nature of the heated body, and moreover the light is richer and mellower for the same reason. Every solid body becomes luminous at a temperature of about 1000° Fahr., and can be made to yield all the rays of the solar spectrum by increasing its temperature still higher; so that we have only to send sufficient current through the solid conductor to raise its temperature to 2000° or 3000° Fahr., and to get from it a rich golden light resembling that of the sun.

Varieties.

The Suez Canal.—The canal was opened in 1869. In 1870 the number of ships passing through it was 490, with a tonnage of 486,000 tons; in 1879, 1,477 ships, with a tonnage of 3,236,000 tons; in 1880, 2,020 ships, 4,346,000 tons; in 1881, 2,727 ships, 5,794,000 tons. The result of all this was that the net profits, after deducting 5 per cent. for the reserve fund, were 14 or 15 per cent. In 1880 the increase of traffic over the previous year was 34 per cent. The canal was tending year by year to become the sole international highway from East to West, and to Australia. Of the ships passing through the canal 78 or 79 per cent. were under the English flag. The English Government purchased some of the shares in the Canal Company, and is represented on the Board by three directors—Sir Rivers Wilson, Sir J. Stokes, and Mr. Stanley, the latter being resident director in Paris.



The English Government receives no dividend from the canal till 1904, when we shall receive 5 per cent. There is therefore a commercial and financial interest in the safety and prosperity of the canal, apart from England's paramount political interest in this highway to the East.

Elephants.—A correspondent points out an error in the May article on elephants, where the size of African elephants

is said to be less than of those in Asia. Dr. Livingstone mentions 10 to 11 feet as a common height, in the Zambesi regions, for males, and 8 to 8½ for females. Jumbo was not, therefore, a specimen of unusual height when he left England. African elephants are on the whole larger than Indian ones. It is to be wished that they could be trained to as much useful work. The inland commerce, by which the slave trade can alone be checked, would then assume greater importance, with elephants to help the carriage of goods.

Upper Egypt.—Dr. Schweinfurth, the eminent traveller, just before the outbreak of the troubles in Cairo and Alexandria, thus wrote about Upper Egypt. His letter was dated June 6: "I am now on my way home from a journey which I have lately made into Upper Egypt. Starting from Siout with camels, and following the eastern bank as far as Assouan, I returned on the other side to Luxor, where I stayed some days for geological researches. The return from Luxor was delayed ten days, as there was not sufficient water for the steamer, the Nile being lower than has been known for the last ten or fifteen years. The flood-water is, however, expected in about fifteen days." Dr. Schweinfurth then gives an interesting description of the measures taken by Della Sala Pasha to prevent the introduction of slaves into Egypt, which appear to be highly successful so far as he is concerned. "Everywhere in my relations with the authorities and the people I have been treated with the highest distinction, as they appear to have the greatest respect and kindly feeling towards Europeans. The population feels an immense relief as compared with the former arbitrary taxation. I have everywhere heard only the expression of joy and satisfaction at this result. They say to me, 'We are now contented; the Government is ten times better than it formerly was.' It was not so when I visited them two years ago. Then every one said to me, 'We have been promised a change for the better, but up to the present time we have seen no proofs of it.' Now they no longer doubt. The harvest also this year has been one of the richest everywhere, and hence there is universal content. Unfortunately, the troubles in Cairo will ruin all these bright prospects. Up to the present time the people of Upper Egypt have not disturbed themselves about this state of things. They do not interest themselves in what passes at Cairo and elsewhere, the majority of the population being perfectly indifferent to all political matters, whether internal or external. It matters very little to them who is master. Under these conditions I cannot understand the panic which has caused Europeans to flee from Cairo and other towns in Lower Egypt in order to seek an asylum in Alexandria. The Consuls ought not to allow this, for it all tends to render the dictatorial party more important than it really is. If I might offer them any advice, I would rather recommend them to go to Upper Egypt."

Anecdotes of Longfellow.—Longfellow used to be very fond of telling little stories about himself, and the pleasure was none the less if the laugh went against him. He once related how a man at Newport, in Rhode Island, wished to do him honour, though in rather an original way. This admirer rushed up to him, and exclaimed, "Sir, I am one of the few men who have read your 'Evangeline' quite through." At another time he came across a lady who was greatly surprised to find him alive, as she imagined he had been dead many years. "You see, I take the liberty of living," said Longfellow, in reply to her astonishment. "Yes," said the lady, "but I really imagined you belonged to at least the time of Washington." When in his study, hard at work, Longfellow was one day startled by some one rushing in the room, exclaiming, "You're a poet, I believe!" "Some persons have said so," was the quiet rejoinder. "All right, poet it is," replied the intruder. "You see, I sell bottles of carminative—go round with it, you see; and I've called to see if I couldn't git you to help me by writin' po'try fur me to stick outside the bottles. If you will it'll help 'mensely. I'll just tell you right now. Give me the po'try, and I'll give

you a bottle of the carminative, and it's a dollar the bottle too." The compliment proved too much for Longfellow! An amusing incident occurred at a banquet at which Longfellow was present. When the toast "To the poet of Cambridge" was proposed, the gentleman who regularly contributed rhyme to the local newspaper rose to reply. Longfellow at once saw the joke, and signalled to the company to hear this modest Cambridge poet. Amidst suppressed laughter he made his remarks, quite unconscious of his mistake, Longfellow following with a very interesting speech. The author of "Evangeline" is said to have been remarkably fond of children. A gentleman who was on his way to dine with Longfellow once met with a little girl, who asked him if he knew where Longfellow lived, as she wished very much to see him? He told her to come along with him and he would take her to the back of the poet's house, where she would be almost sure to see him, as he was generally standing with his back to the fire in the parlour. On arriving they saw the eminent poet in that very position, and the fair admirer was satisfied that she had beheld the one whom she regarded with such wonder. Her guide went in and told his friend that there was a little girl outside. Leaving his comfortable position he at once went to the door and brought her in, and showed her among other things his pictures.

Miss Whately's Work at Cairo.—In a letter from Miss M. L. Whately, written from Alexandria, she said that she would have remained in Cairo, but left in order to satisfy the anxious wishes of others. She believed that their Moslem servants would have remained faithful, and that their feeling was well expressed by a water-carrier, who said, "Have I eaten your salt for ten years, and have I served you all so long, and am I going to turn against you who fear God?" This was said on hearing Miss Whately remark that she trusted in God, and was not afraid, and was sure her servants and neighbours would not turn against them. At the same time it seems well that she left, as the mob of a large city can never be controlled in time of disturbance. The panic was so great that many of the Europeans fled in haste, taking with them nothing, and some leaving their houses with the lights burning. There was alarm lest the lines should be cut, and therefore they hurried to the train.

River and Railway Carriage Company.—An American paper says the relative cheapness of river, compared with railway transportation, is shown by the case of the tow-boat Josh Williams, which some time ago took 32 barges laden with coals from Pittsburg to New Orleans. When the fleet passed Cincinnati, the "Commercial" thus noticed it: "The tow-boat Josh Williams is on her way to New Orleans with a tow of 32 barges, containing 600,000 bushels (76 lb. to the bushel) of coal, exclusive of her own fuel, being the largest tow ever taken to New Orleans or anywhere else in the world. Her freight bill, at 3 cents per bushel, amounts to \$18,000. It would take 1,800 cars of 333 bushels to the car (which is an overload for a car) to transport this amount of coal. At \$10 per ton, or \$100 per car, which would be a fair price for the distance by rail, the freight bill would amount to \$180,000, or \$162,000 more by rail than by river. The tow will be taken from Pittsburg to New Orleans in 14 or 15 days. It would require 100 trains, of 18 cars to the train, to transport this tow of 600,000 bushels of coal; and even if they made the usual speed of fast freight lines it would take one whole summer to put it through the rail. This statement shows the wonderful superiority of the river over rail facilities." This statement has recently been reproduced in support of the plans for improving the navigation of the Missouri and the Mississippi. Corn will be conveyed to Liverpool far more cheaply, via New Orleans, than by railway, and from any of the Eastern ports.

Materialism.—A Nature which was really a blind, insatiable, irresistible fate, falsely called law, destitute of intelligence and reason, devoid of mercy and justice, is the Nature held up for our admiration, with the consoling assurance of dictatorial authority that it sprang from chaos in obedience to everlasting self-originating (?) law, and that it will return to chaos in obedience to the same—all life, and work, and thought being but the undulations of cosmic nebulousity, and dependent upon the never-ceasing gyrations

of infinite, everlasting atoms, as they bound through the ages from void to void. I believe all materialistic doctrines, vary as they may in detail, will be found to agree in accepting as a truth—if, indeed, they are not actually based on it—the monstrous assumption that the living and the non-living are one, and that every living thing is just as much a machine as a watch, or a windmill, or a hydraulic apparatus. According to the material contention, everything owes its existence to the properties of the material particles out of which it is constructed. But is it not strange that it never seems to have occurred to the materialistic devotee that neither the watch, nor the steam-engine, nor the windmill, nor the hydraulic apparatus, nor any other machine known to, or made by, any individual in this world, is dependent for its construction upon the properties of the material particles of the matter out of which its several parts have been constructed!—*Professor Lionel Beale, F.R.S.*

Vital and Physical Action.—Between purely vital and purely physical actions not the faintest analogy has been shown to exist. The living world is absolutely distinct from the non-living world, and, instead of being a necessary outcome of it, is, compared with the antiquity of matter, probably a very recent addition to it. The essential phenomena of all living beings cannot be explained without recourse to some hypothesis of power totally different from any of the known forms or modes of energy. It has been conclusively shown that the laws of vital force or power are essentially different from those by which ordinary matter and its forces are governed.—*Professor Lionel Beale, F.R.S.*

The Medical Profession.—Dr. Billing, at the International Medical Congress held in London, produced some curious statistics as to the number of medical men in civilised lands. There are about 180,000 doctors possessing diplomas or properly-attested qualifications for practice. The number in proportion to the population is larger in France than in any other country. A witty French critic remarks that "it does not follow that the rate of mortality is smallest in France. Besides, there is no country where medical men think themselves called to attempt the cure of social as well as physical disorders, for there are about fifty doctors or surgeons in the Chamber of Deputies." Of the whole profession, Dr. Billing estimates that 12,000 have written treatises on some professional subject, or one in every fifteen. An equal number are journalists or men of letters. The Americans lead the list in statistics of authorship, then German, French, and English. The purely professional training is not of much use for other than professional writing, but the courses required by the great Universities for a medical degree have a wide range, and require a varied knowledge, which leads many graduates of medicine into other fields of literary or scientific labour.

Hat Off!—An amusing scene occurred in the House of Commons one day last Session. An hon. member looked towards the Peers' Gallery, and cried "Order, order." All eyes were immediately directed to the quarter indicated, and the call of order was taken up all along the line until it became one loud universal shout. It then became apparent that the offender against the rules of the House was Lord Mount-Temple, who had unconsciously reverted to the privilege he formerly enjoyed as a Commoner of sitting covered in the Speaker's presence. A friendly hint from another noble "stranger" soon enabled Lord Mount-Temple to realise the situation. He removed his hat with great celerity, and the incident closed in general laughter.

London Parks and Commons.—From the last report of the Metropolitan Board of Works, it appears that the various parks and recreation grounds under the Board's control comprise altogether an area of 1,676 acres, or a little over two and a half square miles; and when it is remembered that what is known as the metropolitan area defined by the Metropolis Local Management Act, 1855, and under the jurisdiction of the Board, extends over 122 square miles, and has within its limits a population of more than three millions and a half, it will be acknowledged that the aggregate of these pleasure-grounds is, after all, but small, and that were it not for the royal parks, which happily may be regarded as

assured public possessions, and for a few commons in and near the outskirts of the metropolis which are not under the Board's control, London would, in proportion to its size and population, be hardly so well provided with places of open-air resort as some other cities and towns. The places of recreation maintained by the Board are Finsbury Park, 115 acres; Southwark Park, 63 acres; gardens on the Victoria, Albert, and Chelsea Embankments, and in Leicester Square, 14 acres; Blackheath, 276 acres; Hampstead Heath, 240 acres; Shepherd's Bush Common, 8 acres; London Fields, 27 acres; Hackney Downs, 50 acres; Well Street Common, 30 acres; North Mill Field, 29 acres; South Mill Field, 28 acres; Clapton Common, 9½ acres; Stoke Newington Common, 5½ acres; waste land at Dalston Lane and Grove Street, Hackney, 1 acre; Tooting Beck Common, 144 acres; Tooting Graveney Common, 63 acres; Clapham Common, 220 acres; Bostall Heath, 55 acres; Plumstead Common, 110 acres; Shoulder-of-Mutton Green, 4 acres; Wormwood Scrubs, 194 acres; total, 1,676½ acres.

Proposed Aeronautical Exhibition.—The Aeronautical Society propose that an exhibition of apparatus for aerial navigation shall be held next year. Fourteen years have elapsed since an exhibition of this kind was witnessed in England, and considerable advance has since been made in the knowledge and application of the principles of flight. Substantial prizes, it is understood, will be offered for the lightest engine in proportion to its power; for the best form of aerial apparatus of dimensions reasonably considered equal to the conveyance of a man and any appliance for effecting aerial transport, whether by muscular or other power; and for the best mechanical model which shall be made to fly sufficiently in point of time to enable a decision to be formed as to its weight-carrying capacity and duration of flight with a continuous power. In connection with these exhibits a trial of the best method of photographing from a balloon will be invited.

Cricket in Australia.—Apart from the excitement of special matches, the visits of Australian cricketers is a pleasant proof of the successful transplantation of the best English sports to the colonies. These players from the antipodes certainly show no degeneracy, but rather an improvement on the original stock, seeing that their time for practice must be less than in the old country. It is true that the Australians have a cricket season of nine or ten months in the year. In our four or five months our best players manage to squeeze in as many playing days, or more, than the Australians can afford in the course of their long summer. With us cricket matches, first-rate and even second-rate, are played all day and every day in the six. On the other hand, Saturday is the only day on which much cricket goes on in the colonies. It is a truth which may not be very palatable to those who assert the natural supremacy of Englishmen in the game, that cricket here is made more of a business than in Australia.

Emerson and the Children.—In an evening spent with Emerson, he made one remark which left a memorable impression on my mind. Two children of the gentleman at whose house we met were playing in the room, when their father remarked, "Just the interesting age." "And at what age," asked Mr. Emerson, "are children *not* interesting?" He regarded them with the eye of a philosopher and a poet, and doubtless saw the possibilities that surround their very being with infinite interest.—*Dr. Irenæus Prime.*

Free Hospitals and Pay Hospitals.—In opening a bazaar recently for a Lancashire hospital, Lord Derby, whose opinions are always worthy of attention, from their good sense and kindly feeling, said that while the increase of provident dispensaries and hospitals was to be desired, yet there will always be place for open hospitals. "When a man falls ill or suffers from an accident you cannot stop to inquire whether he can afford to pay for being cured. I don't talk about the right to relief, because rights are vague and indefinite things, especially in these days; but I do say that when a man is suffering, the common feelings of humanity will not allow you to see him suffer, whether he can afford to pay for his cure or not. While that feeling continues—and I do not think it is likely to cease in our time—it is evident that you

must have hospitals which are not self-supporting, and require to be maintained by appeals to the public. If that is the case, those appeals, to be successful, must be freely and frequently made. Some people object to raising money by means of a bazaar—I cannot say I ever could see why. It seems to me that a bazaar is a very good means of throwing your net rather wider than you can do otherwise, and getting a larger number of people to contribute."

Professor Pauli.—The death of Reinhold Pauli, of Göttingen, is a loss to English as well as German society and letters. Having lived long in this country, in his early life, as private secretary to Chevalier Bunsen, he spoke and wrote English with fluency, and he took deep interest in English history and literature, as his "Life of King Alfred," his monograph on Simon de Montfort, and his edition of Tower's "Confessio Amantis," as well as his works published in Germany, attest. A brief but bright and kindly tribute to his memory appeared in the "Academy," from the pen of E. Maunde Thompson, Keeper of MSS. in the British Museum, one who could appreciate Pauli's learning as well as sympathise with his genial character.

Cornish Mines.—The county of Cornwall has probably drained more money from the pockets of English investors than any other place under the sun. A very large quantity of mineral has from time immemorial been extracted from its mines, but during the last forty or fifty years ten times as much money has been spent by companies on the mines as has been returned. To have made a few days' walk through some parts of Cornwall a year or two ago was a melancholy sight from the number of deserted mines on every side. However, soon a kind of a rage set in for the shares of English mines, and new companies were started one after the other to re-open mines which had been abandoned for years as worthless. Fabulous prices were asked for mines which were flooded or worked out, and, money being forthcoming, soon some parts of Cornwall which had been for years almost deserted became populous. The fever having died out, and no more money being forthcoming, the mines are gradually resuming their old appearance of decay and neglect, the shareholders being left with shares which are worthless and unmarketable in the place of cash.—*Investment Circular.*

Charles Marsh, aged 93.—The new cemetery at Tunbridge Wells received this spring the remains of an old resident, whose life had some historic interest. His great-grandfather was a Welsh gentleman, who married one of the Cromwell family. Born at Bath in 1789, he lived there for fifty-four years, his profession being that of miniature painter and engraver. He was one of 800 Freemasons who dined together when H.R.H. the Duke of Sussex, with the Duke of Leinster, opened the Masonic Hall. From Bath he removed to Liverpool, and was with the Provincial Grand Lodge when H.R.H. the Prince Consort laid the foundation-stone of the Sailors' Home with Masonic honours. In 1853 he went to Sydney with his family, and was present at the opening of the first Australian railroad on September 26, 1855. For the last twenty-five years of his life he resided at Tunbridge Wells, afflicted with blindness, but in health of body and mind till his end, and retaining his consciousness to within the last hour. It was pleasant to hear his anecdotes of life in Bath and London in the early years of the century. He will be remembered by many with respect and affection.

French Teachers in England.—A congress or conference of French teachers was held last autumn in London for mutual consultation and protection as to their professional position. An association of French professors resident in London has since been formed. The correspondent of a French newspaper gives the following curious statistics: In the year 1878, wishing to learn something as to the career and qualifications of those who professed to teach French in England, I inserted an advertisement in the "Times" for a French governess to give lessons three times a week to a young English pupil. On the same day I received 85 replies to my advertisement, of which 34 were from Englishwomen, 4 from Germans, and 2 from Italians. As to the 45 French

applicants, there were 15, or a third, who did not yield anything in picturesque style and spelling to the memorable servant of Chrysale, in Molière's "Femmes Savantes." The correspondent does not say what he thought of the other 30, but probably could gather from a written application or testimonial as little as to the education or accent as the Russian prince knew about the English governess whom he got for his children in response to an advertisement, through an educational agency. An English friend visiting him not long after, the Russian asked him to tell him in confidence what he thought of the accent of his countrywoman to whom he had entrusted the English teaching of his children. The Englishman took an early opportunity of having a talk with the governess, and with great reluctance had to tell his Russian friend that his children would probably speak English in the broadest Scotch or north-country dialect; in fact it was a provincial brogue which he could hardly understand. It is to be feared that not a few French teachers might be reported to speak a very curious *patois*, though professing the "Parisian accent,"—which, by the way, is not necessarily pure, any more than being born near Bow Bells implies good English. The moral of all which is to make good inquiry or personal examination before engaging a teacher, if more is desired than the mere rudiments of a language.

German Military Railway Corps.—Count Von Moltke, before leaving his post as administrative chief of the German Army, had the satisfaction of seeing the military railway service in active operation. The regiment last autumn constructed, in two days, a field railway a mile long, including a viaduct, as the ground was irregular, and a locomotive was run as soon as the work was completed. How many lives might have been saved, and disasters prevented, if the British Army could have made a line from Balaklava to the plateau in front of Sebastopol, without waiting for railway contractors and navvies to arrive from England! Not from Germany only, but from the ancient Romans, much could be learned by own Army authorities. Every legionary could handle a spade and help in making entrenchments. This skill and training might have saved the disasters at Isandhlana and at Majuba Hill, and on many a field of warfare.

Butter and Cheese.—The import of butter has doubled within the last ten years, and is now worth £12,000,000 wholesale, yet the consumer has to pay a higher price than in 1872. The import of cheese has nearly trebled in the same time, and is worth £5,000,000 wholesale, and the rise in price of cheese has been greater even than with butter. The enormous quantity of American and foreign meat, in like manner, has not affected retail prices, which is as high as ever; but it is said that the price would have been half-a-crown a pound for beef but for the foreign supply. If farmers could establish a market for their produce of all kinds their profits would be good, and the selling price at the same time reduced, but at present there has to be profit for jobbers, dealers, salesmen, and other middlemen.

Removal of Grease Spots.—Whenever oil of turpentine, benzole, or ether are used to remove grease spots on cloth, the application should be made on the reverse side of the cloth by moistening it with the solvent in a circle surrounding the spot, so as to approach it gradually, having blotting-paper in contact with the spot of grease to absorb the fat immediately; otherwise the solvent will have the effect of spreading the grease over a larger surface instead of driving it out of the cloth. In the application of a hot iron to one side and blotting-paper to the other, the heat will drive the grease out of the cloth into the paper.

Rest for Weary Workers.—At a meeting of the Branch Secretaries of "The Girls' Friendly Society," a well-known organisation for assisting in various ways young working girls in London, a paper was read by Lady Brabazon which deserves wider notice. The subject was "Rest and change of air for wearied or ailing members,"—members, that is to say, of the Girls' Friendly Society. There is no question as to the weariness and illness too often caused by overwork, nor as to the desirableness of rest. But how can this be obtained by those who have to toil continuously for their daily

bread? Out of their poor earnings few of those who most need it can afford a change, or even partial cessation from work. Lady Brabazon asks, "Why should not some of those who are in more fortunate circumstances offer to receive for a short holiday some of these poor weary toilers in their own homes, or board them in cottage lodgings? The cost would be but a small addition to the expenses of a household, while the life might be saved or the health restored of some poor sister." It is a kind and generous proposal, and might well be responded to, under the conditions which are explained in a printed circular by Lady Brabazon, to be obtained at Hatchards, Piccadilly. The benefit need not be limited to servants and workgirls belonging to the Friendly Society. Lady Brabazon mentions cases of those of higher social standing reduced to poverty by sudden or overwhelming misfortune, who have been thus received for a short season. The most gratifying statement is that though few ladies have as yet offered this charitable help, those who have done so have been glad to renew the invitation. Out of eight persons entertained during last year at different times by one of these good Samaritans, the highest in grade was a pupil teacher, and the lowest a factory girl, of whom it is said "a most grateful, pleasant, well-conducted guest she proved."

Shakespeare's Handwriting.—It was long supposed that the only surviving handwriting of Shakespeare was to be seen in the signatures to his will, in Doctors' Commons; an autograph in a volume of Montaigne, in the British Museum; and the signature to a mortgage deed, now in the Guildhall Library. A remarkable discovery has been reserved for our own time. Mr. John Cordy Jeaffreson, after careful study of the will, has pronounced it to be a holograph. It was intended to be the rough draft of instructions for a will, prepared in January, 1616, and altered for execution in March, when Shakespeare was overtaken by the illness which proved fatal. There was no time and no need to prepare a new document, but the signatures were appended to the three pages of the draft, with a legal certificate appended, declaring it to be his will, signed before witnesses. Consisting in all of less than 1,450 words, there are no fewer than fifty-seven erasures and ninety-seven insertions, clearly showing it to be only a rough draft. In January Shakespeare wrote, "In witness whereof I have hereunto put my seale," but before he signed the will in March he struck out *seale* and wrote *hand* over the erasure. His intention had been to leave a will sealed with his seal, but we have now the far more interesting relic of his own holograph draft. We hope that Mr. Cordy Jeaffreson will publish a monograph on the subject, with an autotype or photographic copy of the will. Having had large dealings with old English handwriting in his official duties in connection with the Historical Manuscript Commission, no one is better qualified to speak with authority on the questions that may be raised as to the writing and spelling and other material elements, as well as those arising out of internal evidence to the same view. From the letters in the "Athenæum," where the discovery was announced, and from examination of the will under Mr. Jeaffreson's courteous guidance, we think the demonstration complete that the document is wholly in the handwriting of Shakespeare.

Imp.—Who would think that this word, now denoting contempt and abhorrence—a sort of demon or evil spirit—was formerly a title of royal dignity? Lord Cromwell, in his letter to King Henry VIII, prays for a blessing on "the imp his son." Henry V in Shakespeare is hailed as "that royal imp of fame!" It is a notable example of words changing their meaning in lapse of time, so as even to acquire a meaning in common parlance foreign to their original etymology.

Science in America.—The American Association for the Advancement of Science will hold its thirty-first meeting in Montreal, Canada, during the week commencing on August 23, under the presidency of Professor Dawson, LL.D., F.R.S., Principal of the McGill University. Twenty-five years have elapsed since its former meeting in Montreal, and in this period the association has increased greatly in numbers and importance. The committee have made arrangements with the various steamship companies to encourage scientific men from Europe to attend the meetings of the association.

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